

# CHECKLIST OF THE VASCULAR PLANTS OF ALLEGHENY COUNTY, PENNSYLVANIA

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## ABSTRACT

Botanists have documented the flora of Allegheny County since the early 1800s. However, only an incomplete checklist of the county's vascular flora has recently been available, last compiled in the 1950s. A search of herbaria has resulted in a list of 1576 taxa of native and naturalized plants comprising 628 genera and 142 families. The five families with the largest number of species are Asteraceae, Poaceae, Rosaceae, Cyperaceae and Fabaceae. *Carex*, *Viola*, *Crataegus*, *Symphyotrichum* and *Rubus* are the five largest genera. This checklist recognizes 10 species of Lycophytes, 44 species of Polypodiophytes, 5 species of Equisetophytes, 12 species of Gymnosperms and 1462 species of Angiosperms. Approximately 400 non-native species have been introduced, mainly from Europe and Eurasia. By The Nature Conservancy's system of conservation status designations, 103 species have global or state ranking.

## RESUMEN

Los botánicos han documentado la flora del condado de Allegheny desde principio de los 1800s. Sin embargo, sólo ha estado disponible una lista incompleta de la flora vascular del condado, compilada por última vez en los 1950s. Una búsqueda en herbarios ha dado como resultado una lista de 1576 taxa de plantas nativas y naturalizadas que se incluyen en 628 géneros y 142 familias. Las cinco familias con mayor número de especies son Asteraceae, Poaceae, Rosaceae, Cyperaceae y Fabaceae. *Carex*, *Viola*, *Crataegus*, *Symphyotrichum* y *Rubus* son los cinco mayores géneros. En esta lista se reconocen 10 especies de Licófitos, 44 especies de Polypodiófitos, 5 especies de Equisetófitos, 12 especies de Gimnospermas y 1462 especies de Angiospermas. Se han introducido aproximadamente 400 especies exóticas, principalmente de Europa y Eurasia. Según las designaciones de status del sistema de conservación del Nature Conservancy, 103 especies tienen nivel global o estatal.

## INTRODUCTION

Even though Pennsylvania lacks checklists for most of its counties, the vascular flora known thus far is quite diverse. Rhoads and Klein (1993) reported 3318 taxa of vascular plants for the state, including 2076 native and 1242 introduced. Approximately 27 of Pennsylvania's 67 counties have floras completed, but some are unpublished theses and surveys and therefore unavailable to the public. The exact number of genera and species in the flora of Allegheny County was heretofore poorly known because the most recent checklist had been compiled over 50 years ago. This paper is an updated checklist providing the baseline information needed to monitor environmental changes and guide conservation decisions.

### Site Description

Allegheny County, Pennsylvania, is located in the southwestern part of the state (Fig. 1). It is bordered by Butler and Armstrong Counties to the north, Westmoreland County to the east, Washington and Beaver Counties to the west.

Total annual precipitation in Allegheny County is approximately 36 to 40 inches. Average seasonal snowfall is 30 inches annually in the southern valley areas to nearly 50 inches at the higher northern elevations. Snow cover of 1 inch or more occurs about 20 days each year in the south and about 45 to 50 days in the north.

The average date of the last 32 degree temperature in the spring is usually around April 29th and the first frost of the season approximately October 15th. The length of the growing season, from the last killing frost in spring to the first killing frost in autumn, is about 170 days (USDA 1981).

## Allegheny County Pennsylvania

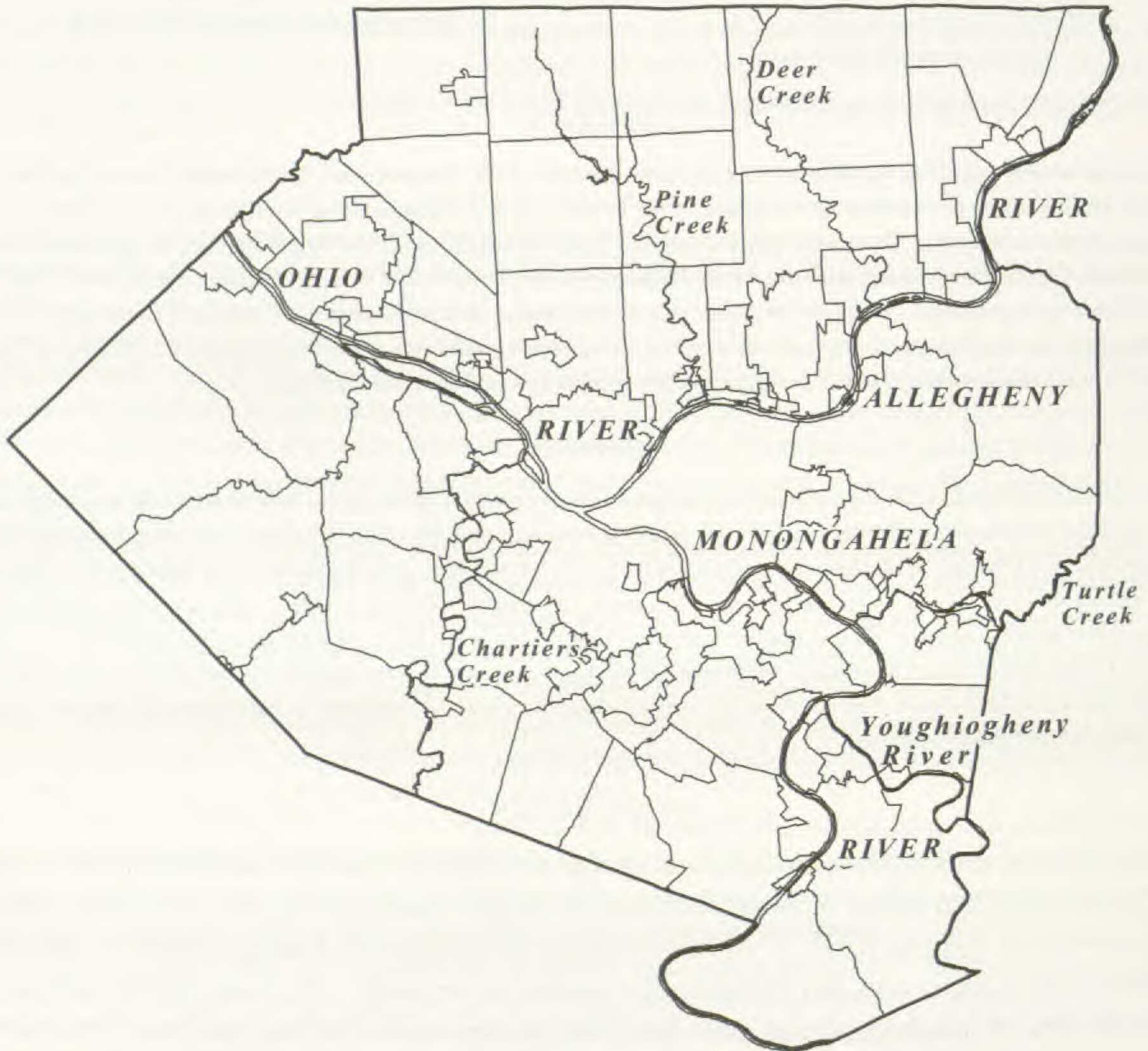
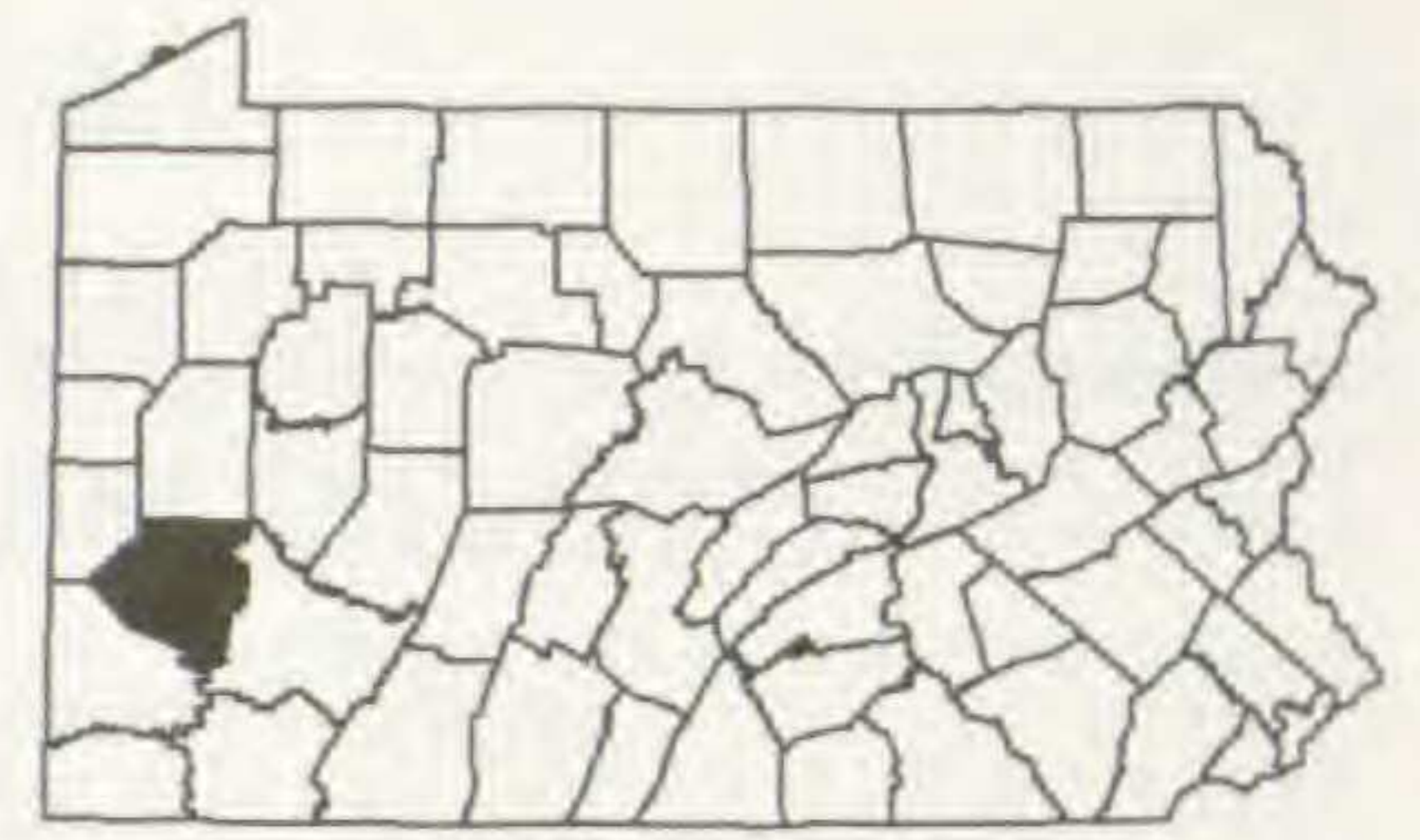
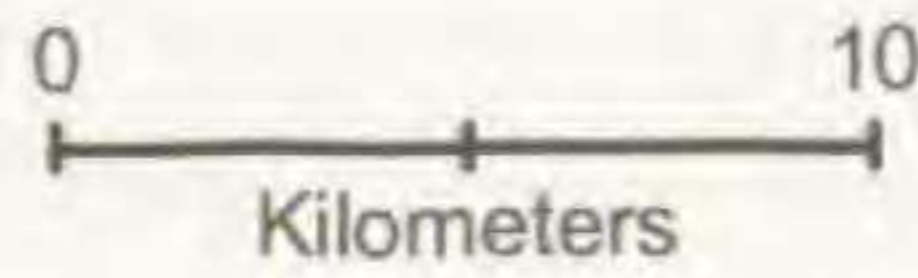
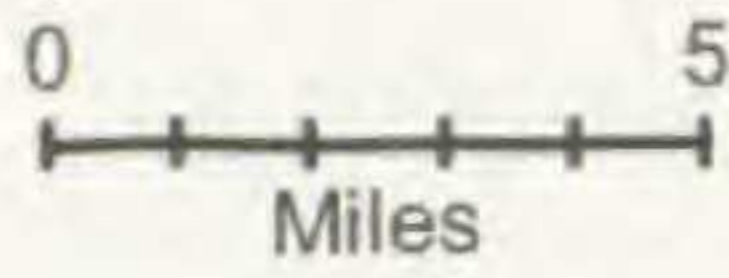


FIG. 1. Map showing counties in Pennsylvania. Larger map shows major rivers, streams and municipalities in Allegheny County.

The soils of the county consist of eight main series: Gilpin-Upshur-Atkins association, Gilpin-Weikert-Atkins association, Culleoka-Weikert-Newark association, Gilpin-Wharton-Upshur association, Dormont-Guernsey-Culleoka association, Urban land-Philo-Rainsboro association, Urban land-Dormont-Culleoka association, and Strip mines-Guernsey-Dormont association. These soils associations can be grouped into two general kinds of landscapes: areas that are unaltered and areas altered by urban development and strip mines (USDA 1981).

The first five associations listed above are from areas that are unaltered by urban development and strip mines and make up about 74 percent of the county.

Gilpin-Upshur-Atkins association is located mainly on steep and very steep sides of valleys but also includes narrow, nearly level flood plains. These soils are moderately-deep to deep and well-drained. The soils are underlain by red and gray shale on uplands and deep, poorly drained soils on flood plains. This

soil association makes up about 15 percent of the county. The area is mostly wooded; due to flooding and steepness of the terrain, other land uses are limited.

Gilpin-Weikert-Atkins association is located mainly on steep and very steep sided valleys but also includes narrow, nearly level flood plains. These soils are shallow to moderately deep, and well-drained. They are underlain by gray shale on uplands and deep, poorly drained soils on flood plains. This soil association makes up about 5 percent of the county. The area is mostly wooded; due to flooding and steepness of the terrain, other land uses are limited.

Culleoka-Weikert-Newark association is also located mainly on steep and very steep sided valleys and includes narrow, nearly level flood plains. These soils are shallow to moderately deep, and well-drained. They are underlain by shale and limestone on uplands and deep, poorly drained soils on flood plains. This soil association makes up about 4 percent of the county. The area is mostly wooded; due to flooding and the steepness of the terrain, other land uses are limited.

Gilpin-Wharton-Upshur association is on undulating to hilly uplands and is highly dissected by small streams and drainage ways. These soils are moderately deep to deep and moderately to well-drained. These soils are underlain by red and gray shale on uplands. This soil association makes up about 32 percent of the county. Much of this area has been cleared. Some of the cleared areas are under continued suburban development while others are used for recreation, are farmed or remain idle. Artificial drainage is needed in many areas while other areas are susceptible to landslides.

Dormont-Guernsey-Culleoka association is on undulating to hilly uplands and is highly dissected by small streams and drainage ways. These soils are moderately deep to deep and moderately to well-drained. They are underlain by shale and limestone on uplands. This soil association makes up about 18 percent of the county. Much of this area is under continuous suburban development while other cleared areas are used for recreation, contain scattered farms or remain idle.

The Urban land-Philo-Rainsboro association, Urban land-Dormont-Culleoka association, and Strip mines-Guernsey-Dormont association make up about 20 percent of the county and contain areas that are altered by urban development and strip mines.

Urban land-Philo-Rainsboro association is mainly on nearly level bottom land adjacent to major streams. These soils are deep and moderately well-drained on flood plains and terraces. This soil association makes up about 6 percent of the county. Most of this area is used for residential, commercial, and major industrial developments and for major highway and railroad routes. In general some areas are prone to flooding.

Urban land-Dormont-Culleoka association is in the southern half of the county. It is on nearly level to hilly uplands that are dissected by small streams and drainage ways. The soil is moderately deep to deep and moderately to well-drained. The urban land is underlain by shale while the uplands are underlain by limestone. This soil association makes up about 9 percent of the county. This association is used mainly for urban development. Most land is limited by a seasonal high water table.

Strip mines-Guernsey-Dormont association is in the southern half of the county. It consists of rolling to very steep areas that have been strip mined. The soil is deep and moderately well-drained. The strip mines are underlain by shale and limestone on uplands. This soil association makes up about 5 percent of the county. Much of the land remains idle and vegetation is sparse (USDA 1981).

Allegheny County consists of a hilly region that is situated in the Allegheny Plateau physiographic region. The Allegheny Plateau is mainly covered by hardwood forest. The county is bounded partially by the Monongahela and Youghiogeny Rivers to the southeast and partially by the Allegheny River to the northeast. Elevations range from a high of 1,200 feet to a low of 82 feet above sea level.

Allegheny County is known for the three major rivers that flow through it: the Allegheny and the Monongahela converge at Pittsburgh to form the Ohio River. An additional river, the Youghiogeny, meets the Monongahela at McKeesport, 10 miles south of Pittsburgh. Allegheny County contains seven major watersheds, located in the subbasins of the lower Allegheny River, the Monongahela River and the Ohio River.

The Lower Allegheny River watershed drains a total area of 324 square miles. Its major waterways include the lowest portion of the Allegheny River and Deer Creek, which originates north of Allegheny County.

The watersheds of the Monongahela subbasin in Allegheny County include the Lower Youghiogheny River, the Middle Monongahela River and Turtle Creek. The Lower Youghiogheny River watershed has a total drainage area of 478 square miles and its major waterway in Allegheny County is the lower Youghiogheny River, which enters the county in the southeast. The Middle Monongahela River watershed has a total drainage area of 509 square miles and its major waterway in Allegheny County includes the lower portion of the Monongahela River. Turtle Creek watershed has a total drainage area of 202 square miles and its major stream is Turtle Creek. This watershed drainage area includes forest, farmland, industry, abandoned mined lands, as well as urban and suburban residential communities.

The Ohio subbasin contains the following watersheds: Chartiers Creek, Raccoon Creek and Upper Ohio River. Chartiers Creek drains a total of 296 square miles and enters Allegheny County in the southwest. Raccoon Creek drains 327 square miles and creates a portion of the western boundary of Allegheny County. Forty miles of the main stem of Raccoon Creek and 30 to 40 miles of tributaries are degraded by mine drainage. The Upper Ohio River watershed has a total drainage area of 209 miles; Sewickley Creek and the upper portion of the Ohio River are its major water ways.

Watershed conditions need to be evaluated to detect if biodiversity is increasing or decreasing. Comparison studies between years and sites will be extremely important in mining areas because they will reflect the interactions of many of the other environmental indicators, and these comparisons provide measurable effects for management decisions (Pennsylvania DEP Watershed Notebook, 2006).

## History

Allegheny County was the first county in Pennsylvania to be given a Native American name. During the colonial era various native groups, such as the Iroquois, Lenape, Shawnee, and Mingo, settled in the area. Very little however is known about the native inhabitants of the region prior to European contact. The first known European settlers to enter the area were the French in 1749. The French claimed the Ohio Valley and all of Western Pennsylvania for Louis XV of France. Both the French and the British desired control over the rivers because most of the towns were developed along rivers. In 1754, George Washington forged an expedition into the region which ended in defeat by the French and Indians at Fort Necessity. In 1758 the British won the French and Indian War and settlers came back into the region. In the 1770s both Pennsylvania and Virginia claimed the region that is now Allegheny County. Pennsylvania administered most of the region as part of Westmoreland County. Virginia considered everything south of the Ohio River and east of the Allegheny River to be part of its Yohogania County and governed it from Fort Dunmore. The overlapping boundaries, multiple governments, and confused deed claims soon proved unworkable. The claims were settled in 1780 when the Mason-and-Dixon Line was extended to the original limit of Penn's land grant, giving Virginia frontage on the Ohio River, but ceding the land north of the Mason-and-Dixon Line to Pennsylvania.

Allegheny County was created in September 24, 1788 from portions of Washington and Westmoreland Counties. The county's current borders were settled by the 1800s.

In the late 1700s farming played a critical role in the growth of the area. During this period a surplus of grain occurred due to transportation difficulties and the farmers began to distill the grain into whiskey. The production of whiskey significantly helped the economy of the farmers until the 1790s when a whiskey excise tax was imposed. This started the Whiskey Rebellion when the farmers who depended on whiskey income refused to pay. After a series of demonstrations by farmers, President George Washington arrived with troops to stop the rebellion.

The county's strategic location and wealth of natural resources spurred its commercial and industrial growth in the 19<sup>th</sup> century. The blast furnace, erected by George Anschutz about 1792, was the forerunner of the iron and steel industry that for more than a century was the county's economic mainstay. Pittsburgh.

the county seat, would later be labeled the Steel Capital of the World. The Pennsylvania Canal and the Portage Railroad, both completed in 1834, opened vital markets for trade and shipping. As the 19<sup>th</sup> century progressed, Pittsburgh became one of the nation's greatest industrial cities and was a leading producer of glass, iron and textiles. During the American Civil War the county became a supplier to the Union and the iron industry and its shipyards gained wealth. After the American Civil War, great numbers of European immigrants moved into the area. Transportation improvements facilitated growth, and by 1900 nine railroad lines entered Pittsburgh. The Army Corps of Engineers constructed an extensive series of locks and dams during this time which improved shipping. World War II and the industrial demand it created temporarily boosted Pittsburgh's economy.

By the late 1970s, the steel industry had virtually disappeared. Over 100,000 steel and steel-related jobs were eliminated between 1978 and 1983. By the mid-1980s many of the region's manufacturing plants had gone out of business or left the area. Since then the county has successfully diversified its economy based on services, especially medical, financial, corporate, and educational, rather than steel. In 2008, Pittsburgh has been ranked in the top ten among U.S. cities hosting headquarters of Fortune 500 corporations. These include major corporations such as U.S. Steel Corp., H.J. Heinz, PNC Financial Services Group, and PPG industries (Alan Enterprise 2007).

The county is divided into 130 municipalities with the majority of the population residing in the urban and suburban areas. The first census taken in 1790 documented that Allegheny County had a population of nearly 10,309. As of 2000, the population was 1,281,666.

According to the U.S. Census Bureau, the county has a total area of 1,929 km<sup>2</sup> (745 sq mi); 1,891 km<sup>2</sup> (730 sq mi) of it is land, and 38 km<sup>2</sup> (15 sq mi) is water (U.S. Census Bureau 2009).

### Major Collectors

Collecting in Allegheny County for the Carnegie Museum Herbarium began in the early 1800s and has continued to the present. Most of the collectors have been members of the Botanical Society of Western Pennsylvania and the staff of the Section of Botany at Carnegie Museum.

Botanists who have made significant contributions to the knowledge of the Allegheny County are W.A. Zanol, W.E. Buker, O.E. Jennings, J. Bright, and B.L. Isaac and J.A. Isaac.

### METHODS

This checklist was compiled by searching the herbaria of the Carnegie Museum of Natural History (CM). Herbarium collection information was obtained from the Morris Arboretum (MOAR). Other herbaria that were examined for specimens include the Academy of Natural Sciences of Philadelphia. In addition, fieldwork was conducted targeting underrepresented areas of the county. Most of the collections were made during the late 1940s and early 1950s but several specimens date back as far as 1873 and 1875. The majority of the specimens are deposited at the Carnegie Museum of Natural History (CM). Rhoads and Block (2000) was the primary source for plant identification. For generic and species names, we have generally followed the Synthesis of North American Flora (Kartesz 1999). Authorities are abbreviated for the majority of taxa according to Brummitt and Powell (1992).

### RESULTS AND DISCUSSION

This list includes the names of all native and naturalized species known to occur in Allegheny County. It includes a total of 142 families, 628 genera, and 1533 species. The five families with the largest number of species are Asteraceae, Poaceae, Rosaceae, Cyperaceae and Fabaceae. *Carex*, *Viola*, *Crataegus*, *Symphyotrichum* and *Rubus* are the five largest genera. This checklist recognizes 10 species of Lycophytes, 44 species of Polypodiophytes, 5 species of Equisetophytes, 12 species of Gymnosperms and 1462 species of Angiosperms. There are approximately 400 non-native species that have been introduced mainly from Europe and Eurasia. 103 species have global or state conservation status ranking as defined by The Nature Conservancy.

Of the 103 plants that have global or state ranking, one has G2 status, and four have G3 status. The remaining 98 plants are either a G4 or G5 status, indicating, respectively, an apparently secure or secure condition globally.

*Potamogeton tennesseensis* (Tennessee pondweed) has a status of G2 or an imperiled status. This species contains floating leaves 2 to 4 cm long and 5 to 13 mm wide. Submersed linear leaves are 1 to 3 veined with prominent lacunar bands, whereas the floating leaves have 9 to 23 veins. The stipules are fused to the leaf bases for  $\frac{1}{4}$  or less of their length, or are free. The achenes are orbicular with a winged keel. The small size of *P. tennesseensis*, in combination with the acute floating leaves, renders the species reasonably distinctive; the species can however be confused with an immature specimen of *Potamogeton epihydrus*.

With a status of G3 or vulnerable status, is *Scutellaria saxatilis* (rock skullcap). These plants are slender and decumbent with glabrous or eglandular stems. The leaves are glabrous, petioled, ovate-shaped and rounded at the base. The margins have fewer than 10 rounded teeth on each side. This species has a distinctive prominent protuberance on the upper corolla. The flowers are in terminal few-flowered racemes and have bracts underneath the calyx. This species can be confused with *Scutellaria ovata*, but this species has much longer leaves and is not decumbent.

*Trifolium reflexum* (buffalo clover) has a status of G3G4 or vulnerable to apparently secure status. These plants are 1 to 5 cm tall and are not stoloniferous. They have globose heads that are 2.5 to 4.5 cm in diameter and each flower has a pedicel at least 2 mm long. The corolla has a red or white standard and white wings and keel. *T. reflexum* has calyx teeth that are twice or more than twice as long as their calyx tube. This species can be confused with *Trifolium hybridum*, *T. pratense*, or *T. stoloniferum* (Vincent 1991); however, *T. reflexum* is distinctive in having long calyx teeth, long pedicels, and by lacking stolons.

With a ranking of G3 or vulnerable status, *Crataegus pennsylvanica* (Pennsylvania hawthorn) is a tree of up to 10 meters with slender thorns that become stout with age. Their leaves are broadly ovate and sharply toothed with 4 to 6 pairs of shallow lateral lobes. When young the leaves are densely hairy on the underside, but the hairs become more infrequent with age. The upper surface of the leaves is scabrous. The flowers are stalked with bases of the stalks densely hairy, the sepals have glandular teeth, and the stamens are about 10 in number. Their anthers are ivory-colored. The fruits are about 12 mm in diameter.

*Delphinium exaltatum* also has a global ranking of G3 or vulnerable status. *Delphinium exaltatum* contains alternate leaves palmately divided into 3 to 5 parted segments, 15 cm long, silvery-green abaxially and pubescent above and below. The basal lobes of some of the larger leaves are divided again and make the blade appear 5-lobed. The flowers are in terminal racemes. The 4 purplish-blue petals are dimorphic with the upper two petals expanded at the base and forming a spur. The lateral petals are reflexed in the apical half with long white hairs. The stamens are approximately 30 in number with yellow pollen. The 5 sepals are irregular. The species can be confused with *Delphinium tricorne*; however *D. tricorne* is a smaller plant and flowers much earlier than *D. exaltatum*, in May to early June. By July, when *D. exaltatum* is beginning to flower, *D. tricorne* already has set fruit. Most of the collections are from rich shaded woods and on rocky limestone bluffs. This species is quite conspicuous and may be subject to casual picking or may be dug for gardens.

There are 8 taxa in the Allegheny County flora that are listed by the Pennsylvania Department of Agriculture (2007) as noxious weeds. It is therefore illegal to propagate, sell or transport the following taxa in the Commonwealth: *Cannabis sativa* (marijuana), *Cirsium arvense* (Canadian thistle), *Cirsium vulgare* (bull or spear thistle), *Datura stramonium* (jimsonweed), *Lythrum salicaria* (purple loosestrife), *Pueraria montana* var. *lobata* (kudzu), *Rosa multiflora* (multiflora rose), and *Sorghum halepense* (Johnsongrass). Other species considered serious invasives in Pennsylvania's native ecosystems are: *Aegopodium podagraria* (bishop's goutweed), *Ailanthus altissima* (tree-of-heaven), *Akebia quinata* (chocolate-vine), *Alliaria petiolata* (garlic mustard), *Ampelopsis brevipedunculata* (amur peppervine), *Berberis thunbergii* (Japanese barberry), *Berberis vulgaris* (European barberry), *Bromus tectorum* (cheat grass), *Celastrus orbiculatus* (oriental bittersweet), *Elaeagnus umbellata* (autumn olive), *Euonymus alatus* (winged euonymus), *Hesperis matronalis* (dame's rocket), *Ligustrum vulgare*

(common privet), *Lonicera japonica* (Japanese honeysuckle), *Lonicera maackii* (Amur honeysuckle), *Lonicera morrowii* (Morrow's honeysuckle), *Lonicera tartarica* (Tartarian honeysuckle), *Miscanthus sinensis* (Chinese silver grass), *Ornithogalum nutans* (drooping star-of-Bethlehem), *Ornithogalum umbellatum* (star-of-Bethlehem), *Pastinaca sativa* (wild parsnip), *Paulownia tomentosa* (princesstree), *Phalaris arundinacea* (reed canary grass), *Phragmites australis* (common reed), *Polygonum cuspidatum* (Japanese knotweed), *Rhamnus cathartica* (European buckthorn), *Rubus phoenicolasius* (wine raspberry), *Ulmus pumila* (Siberian elm) and *Viburnum opulus* var. *opulus* (highbush-cranberry) (DCNR 2004).

While this checklist may be incomplete, it is the most comprehensive list of Allegheny County species presently available.

#### ANNOTATED CHECKLIST OF THE SPECIES OF ALLEGHENY COUNTY, PENNSYLVANIA

Taxa are listed according to the following format: taxon name, author(s), ((year) collector and number} **global: state ranking** [Synonyms] and non-native source. We follow the state (**S**) and global (**G**) ranking systems developed by The Nature Conservancy (1996 version). The global numbers are designated from **1** (critically imperiled) to **5** (secure). Other notations include **SH**, which denotes historical occurrence, and **SR**, which indicates reported without persuasive documentation. Synonyms are included for names not in common usage in the state or regional manuals. In cases where there was more than one specimen present in the Carnegie Museum Herbarium collection, recent collections of current collectors for the western Pennsylvania region were cited.

Families, genera, and specific and infraspecific taxa are arranged alphabetically within vascular plant groups Angiosperms, Equisetophytes, Gymnosperms, Lycophytes, and Polypodiophytes.

#### ANGIOSPERMS

- Acanthaceae**  
*Justicia americana* (L.) Vahl, 1994 W.A. Zanol 3074
- Aceraceae**  
*Acer campestre* L., 2002 B.L. Isaac and J.A. Isaac and S.P. Grund and McPherson 14353 Europe  
*Acer negundo* L. var. *negundo*, 1999 B.L. Isaac and T. Herman 11780  
*Acer nigrum* Michx. f., 1998 K. McGowan and M. Scanlon 155 [*Acer saccharum* (Marsh) ssp. *nigrum* (Michx. f.) Desmarais]  
*Acer pensylvanicum* L., 1929 O.E. Jennings s.n.  
*Acer rubrum* L. var. *rubrum*, 1984 M. Macdonald and K. Stewart LSCW 58  
*Acer rubrum* L. var. *trilobum* Torr. & A. Gray ex K. Koch, 1951 E. Mason s.n.  
*Acer saccharinum* L., 1997 S.A. Thompson and B.L. Isaac 14136  
*Acer saccharum* Marsh. var. *saccharum*, 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15158  
*Acer spicatum* Lam., 1936 O.E. Jennings s.n.
- Acoraceae**  
*Acorus americanus* (Raf.) Raf., 1989 S.A. Thompson 6862 GS:S1 [*Acorus calamus* L. var. *americanus* (Raf.) H.D. Wulff.]  
*Acorus calamus* L., 1948 E. Mason s.n.
- Alismataceae**  
*Alisma subcordatum* Raf., 1991 W.A. Zanol 825 [*Alisma plantago-aquatica* L. var. *parviflorum* (Pursh) Torr.]  
*Sagittaria australis* (J.G. Sm.) Small, 1922 A.B. Lord s.n. [*Sagittaria engelmanniana* J.G. Sm. ssp. *longirostra* auct. non Michx.]  
*Sagittaria graminea* Michx., 1991 B.L. Isaac and J.A. Isaac and E. Allen 3511  
*Sagittaria latifolia* Willd., 1975 J.M. Eggers 14  
*Sagittaria rigida* Pursh., 1940 O.E. Jennings s.n.
- Amaranthaceae**  
*Amaranthus albus* L., 1986 A.W. Cusick 25787 [*Amaranthus albus* L. var. *pubescens* (Uline & Bray) Fern.]  
*Amaranthus arenicola* I.M. Johnston, 1946 W.E. Buker s.n.  
*Amaranthus blitoides* S. Wats. s.n., Exotic  
*Amaranthus blitum* L. var. *emarginatus* (Moq. ex Uline & Bray) comb., 1993 W.A. Zanol 2066 [*Amaranthus lividus* L.]  
*Amaranthus cruentus* L., 1946 W.E. Buker s.n. Central America  
*Amaranthus graecizans* L., 1913 J. Bright s.n. Mediterranean  
*Amaranthus hybridus* L., 1990 W.A. Zanol 339  
*Amaranthus hypochondriacus* L., 1891 J.A. Shafer s.n. Africa  
*Amaranthus powellii* S. Wats. ssp. *powellii*, 1889 J.A. Shafer s.n.  
*Amaranthus retroflexus* L., 1968 W.E. Buker s.n. Tropical America  
*Amaranthus tuberculatus* (Moq.) Sauer, 1922 J. Bright s.n.
- Anacardiaceae**  
*Rhus aromatica* Ait. var. *aromatica*, 1947 W.E. Buker s.n.  
*Rhus copallinum* L., 1910 A.E. Ortman s.n.  
*Rhus glabra* L., 1945 L.K. Henry s.n.  
*Rhus typhina* L., 1998 K. McGowan and M. Scanlon 220  
*Toxicodendron radicans* (L.) Kuntze ssp. *negundo* (Greene) Gillis, 1998 K. McGowan and M. Scanlon 179  
*Toxicodendron vernix* (L.) Kuntze, 1915 O.E. Jennings s.n.

**Annonaceae**

*Asimina triloba* (L.) Dunal, 1950 L.K. Henry s.n.

**Apiaceae**

*Aegopodium podagraria* L., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13560 Eurasia [*Aegopodium podagraria* L. var. *variegatum* Bailey]

*Aethusa cynapium* L., 1916 N. McCallum s.n. Eurasia

*Anethum graveolens* L., 1945 W.E. Buker s.n. Europe

*Angelica atropurpurea* L., 1933 C.M. Boardman s.n. [*Angelica atropurpurea* L. var. *occidentalis* Fassett]

*Angelica venenosa* (Greenway) Fern., 1945 W.E. Buker s.n.

*Chaerophyllum procumbens* (L.) Crantz var. *procumbens*, 1989 C.W. Bier s.n.

*Cicuta maculata* L. var. *maculata*, 1991 W.A. Zanol 805

*Conium maculatum* L., 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14381 Europe

*Cryptotaenia canadensis* (L.) DC., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13599

*Daucus carota* L., 2002 H. George s.n. Eurasia

*Erigenia bulbosa* (Michx.) Nutt., 1922 O.E. Jennings s.n. G5:S4

*Foeniculum vulgare* P. Mill., 1889 J.A. Shafer s.n. Southern Europe

*Heracleum maximum* Bartr., 1997 S.A. Thompson and M. Sally 13513 [*Heracleum lanatum* Michx.]

*Hydrocotyle americana* L., 1930 W.R. VanDersal 1731

*Osmorhiza claytonii* (Michx.) C.B. Clarke, 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14327

*Osmorhiza longistylis* (Torr.) DC., 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14328

*Oxypolis rigidior* (L.) Raf., 1912 J. Bright s.n. G5:S2

*Pastinaca sativa* L., 1997 S.A. Thompson and B.L. Isaac 13645 Eurasia

*Sanicula canadensis* L. var. *canadensis*, 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15150

*Sanicula marilandica* L., 1969 W.E. Buker s.n.

*Sanicula odorata* (Raf.) K.M. Pryer & L.R. Phillippe, 2002 B.L. Isaac and J.A. Isaac and S.P. Grund and McPherson 14356 [*Sanicula gregaria* Bickn.]

*Sanicula trifoliata* Bickn., 1997 S.A. Thompson and M. Sally 13504

*Taenidia integerrima* (L.) Drude, 1946 W.E. Buker s.n.

*Thaspium barbinode* (Michx.) Nutt., 1994 F.H. Utech and T.D. Jacobsen and R.W. Kiger 94-2265

*Thaspium trifoliatum* (L.) A. Gray var. *aureum* Britt., 1997 B.L. Isaac and J.A. Isaac 9603

*Zizia aptera* (A. Gray) Fern., 1969 W.E. Buker s.n.

*Zizia aurea* (L.) W.D.J. Koch, 1991 W.A. Zanol 479

**Apocynaceae**

*Apocynum androsaemifolium* L., 1991 W.A. Zanol 779

*Apocynum cannabinum* L., 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15099

*Apocynum x floribundum* Greene (pro sp.), 1917 B.H. Patterson s.n. [*Apocynum medium* Greene]

*Vinca minor* L., 1998 K. McGowan and M. Scanlon 8 Europe

**Aquifoliaceae**

*Ilex montana* Torr. & A. Gray ex A. Gray, 1926 H.W. Graham s.n.

*Ilex opaca* Ait. var. *opaca*, 1938 R.J. Templeton and W.C. Grimm s.n. G5:S2

*Ilex verticillata* (L.) A. Gray, 1944 O.E. Jennings s.n.

**Araceae**

*Arisaema dracontium* (L.) Schott, 1942 O.E. Jennings s.n.

*Arisaema triphyllum* (L.) Schott ssp. *pusillum* (Peck) Huttleston, 1940 L.K. Henry s.n.

*Arisaema triphyllum* (L.) Schott ssp. *stewardsonii* (Britt.) Huttleston, 1945 O.E. Jennings s.n.

*Arisaema triphyllum* (L.) Schott ssp. *triphyllum*, 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech and S. Grund 14344

*Symplocarpus foetidus* (L.) Salisb. ex Nutt., 1991 W.A. Zanol 425

**Araliaceae**

*Aralia hispida* Vent., 1908 O.E. Jennings s.n.

*Aralia nudicaulis* L., 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14320

*Aralia racemosa* L. ssp. *racemosa*, 1997 S.A. Thompson and B.L. Isaac and R. Goto and T. Collins 14205

*Aralia spinosa* L., 1997 S.A. Thompson and B.L. Isaac 14199

*Eleutherococcus sieboldianus* (Makino) Koidzumi, 2002 B.L. Isaac and J.A. Isaac 14373 Japan [*Eleutherococcus pentaphyllum* auct. non (Sieb. & Zucc.) Nakai]

*Panax quinquefolius* L., 1912 J. Bright 22

*Panax trifolius* L., 1920 O.E. Jennings and L.C. Denise s.n.

**Aristolochiaceae**

*Asarum canadense* L., 1945 O.E. Jennings s.n. [*Asarum canadense* L. var. *acuminatum* Ashe]

*Endodeca serpentaria* (L.) Raf., 1937 O.E. Jennings s.n. [*Aristolochia serpentaria* L.]

*Isotrema macrophyllum* (Lam.) C.F. Reed, 2001 J.A. Isaac 13621 [*Aristolochia macrophylla* Lam.]

**Asclepiadaceae**

*Asclepias exaltata* L., 1945 L.K. Henry s.n.

*Asclepias incarnata* L. ssp. *incarnata*, 1998 K. McGowan and M. Scanlon 309

*Asclepias purpurascens* L., 1998 S.A. Thompson 14911

*Asclepias quadrifolia* Jacq., 1967 L.K. Henry s.n.

*Asclepias syriaca* L., 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15207 [*Asclepias syriaca* L. var. *kansana* (Vail) Palmer & Steyermark]

*Asclepias tuberosa* L. ssp. *tuberosa*, 2001 S.N. Costabile 16

*Asclepias viridiflora* Raf., 1949 E. Mason s.n.

*Matelea obliqua* (Jacq.) Woods., 1896 W.J. McAdams s.n. G4?:S1

**Asteraceae**

*Achillea millefolium* L., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13607 Europe

*Ageratina altissima* (L.) King & H.E. Robins. var. *altissima*, 2002 S.P. Grund and M.L. Speedy 2898 [*Eupatorium rugosum* Houtt.]

*Ambrosia artemisiifolia* L., 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15125

*Ambrosia trifida* L., 1990 W.A. Zanol 226

*Anaphalis margaritacea* (L.) Benth., 1944 L.K. Henry s.n.



- Antennaria howellii* Greene ssp. *neodioica* (Greene) Bayer, 1992 W.A. Zanol 1221
- Antennaria howellii* Greene ssp. *petaloidea* (Fern.) Bayer, 1915 B.H. Patterson [*Antennaria neodioica* Greene ssp. *petaloidea* (Fern.) Bayer & Stebbins]
- Antennaria parlinii* Fern. ssp. *fallax* (Greene) Bayer & Stebbins, 1925 J. Bright s.n.
- Antennaria parlinii* Fern. ssp. *parlinii*, 1950 L. News s.n. [*Antennaria plantaginifolia* (L.) Richards var. *parlinii* (Fern.) Cronq.]
- Antennaria plantaginifolia* (L.) Richards., 1946 D. Benzenhoefer
- Bidens aristosa* (Michx.) Britt., 1986 A.W. Cusick 25792 [*Bidens polylepsis* Blake]
- Antennaria virginica* Stebbins, 1949 W.E. Buker s.n. G4:S3 [*Antennaria virginica* Stebbins var. *argillicola* Stebbins]
- Anthemis cotula* L., 1994 W.A. Zanol 2441 Europe
- Arctium lappa* L., 1998 K. McGowan and M. Scanlon 353 Eurasia [*Arctium vulgare* (Hill) Evans]
- Arctium minus* (Hill) Bernh., 1994 W.A. Zanol 3469 Eurasia
- Arnoglossum atriplicifolium* (L.) H.E. Robins., 1912 J. Bright 27 [*Cacalia atriplicifolia* L.]
- Arnoglossum reniforme* (Hook) H.E. Robins., 1919 O.E. Jennings s.n. G4:S1 [*Cacalia muehlenbergii* (Schultz-Bip) Fern.]
- Artemisia annua* L., 1986 A.W. Cusick 25790 Eurasia
- Artemisia biennis* Willd., 1889 J. Furgeson s.n. Europe
- Artemisia ludoviciana* Nutt. ssp. *ludoviciana*, 1967 W.E. Buker s.n. [*Artemisia ludoviciana* Nutt. var. *gnaphalodes* (Nutt.) Torr. & A. Gray]
- Artemisia vulgaris* L., 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15171 Eurasia
- Bellis perennis* L., 2002 B.L. Isaac and J.A. Isaac 14335 Europe
- Bidens bipinnata* L., 1997 S.A. Thompson and B.L. Isaac 14202
- Bidens cernua* L., 1993 W.A. Zanol 2072
- Bidens frondosa* L., 1998 K. McGowan and M. Scanlon 389
- Bidens tripartita* L., 1993 W.A. Zanol 2150
- Bidens vulgata* Greene, 1944 L.K. Henry s.n.
- Boltonia asteroides* (L.) L'Her var. *asteroides*, 1988 E. York 355 G5:S1
- Brickellia eupatorioides* (L.) Shinnars var. *eupatorioides*, 1945 E. Mason s.n.
- Calendula officinalis* L., 1966 W.E. Buker s.n. Southern Europe
- Centaurea cyanus* L., 1992 G.H. Pollack 56 Europe
- Centaurea jacea* L., 1964 N.R. Farnsworth WP-972 Europe
- Centaurea nigra* L., 1933 C.T. Agostini s.n. Europe [*Centaurea nigra* L. var. *radiata* DC.]
- Centaurea stoebe* L. ssp. *micranthos* (Gugler) Hayek, 2000 R.B. Cox s.n. Europe [*Centaurea biebersteinii* DC.]
- Cichorium intybus* L., 2002 H. George s.n. Europe
- Cirsium altissimum* (L.) Spreng., 1944 L.K. Henry s.n.
- Cirsium arvense* (L.) Scop., 1998 S.A. Thompson 14912 Eurasia
- Cirsium discolor* (Muhl. ex Willd.) Spreng., 1921 O.E. Jennings s.n.
- Cirsium muticum* Michx., 1950 D.H. Krouse s.n.
- Cirsium pumilum* (Nutt.) Spreng., 1991 W.A. Zanol 876
- Cirsium vulgare* (Savi) Ten., 1997 J.A. Isaac and B.L. Isaac 10178 Eurasia
- Conoclinium coelestinum* (L.) DC., 1997 S.A. Thompson and B.L. Isaac 14127 G5:S3 [*Eupatorium coelestinum* L.]
- Conyza canadensis* (L.) Cronq., 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15206
- Coreopsis lanceolata* L., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13604
- Coreopsis tinctoria* Nutt. var. *tinctoria*, 1965 N.R. Farnsworth WP-1144
- Coreopsis tripteris* L., 1965 W.D. Loub and H.H. Fong WP-1137
- Cosmos bipinnatus* Cav., 1963 N.R. Farnsworth WP-613 Mexico
- Crepis capillaris* (L.) Wallr., 1935 O.E. Jennings s.n. Europe
- Doellingeria infirma* (Michx.) Greene, 1919 O.E. Jennings s.n. [*Aster infirmus* Michx.]
- Doellingeria umbellata* (P. Mill.) Nees var. *umbellata*, 1966 R.N. Blomster WP-651 [*Aster umbellatus* P. Mill. var. *umbellatus*]
- Dyssodia papposa* (Vent.) A.S. Hitchc., 2004 B.L. Isaac and J.A. Isaac 18551
- Echinacea purpurea* (L.) Moench, 1994 W.A. Zanol 3499
- Eclipta prostrate* (L.) L., 1994 W.A. Zanol 3457
- Erechtites hieraciifolius* (L.) Raf. ex DC. var. *hieraciifolius*, 1994 W.A. Zanol 3752
- Erigeron annuus* (L.) Pers., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13566 [*Erigeron annuus* (L.) Pers. var. *discoideus* (Victorin & Rouss.) Cronq.]
- Erigeron philadelphicus* L. var. *philadelphicus*, 1998 K. McGowan and M. Scanlon 183
- Erigeron pulchellus* Michx. var. *pulchellus*, 1982 W.E. Buker s.n.
- Erigeron strigosus* Muhl. ex Willd. var. *strigosus*, 1998 K. McGowan and M. Scanlon 280
- Eupatorium altissimum* L., 1997 S.A. Thompson and J.E. Rawlins 13898
- Eupatorium perfoliatum* L., 1998 K. McGowan and M. Scanlon 363
- Eupatorium serotinum* Michx., 1996 L.L. Smith and R. Hawk 75
- Eupatorium sessilifolium* L., 1945 L.K. Henry s.n.
- Eurybia divaricata* (L.) Nesom, 2000 R.B. Cox s.n. [*Aster divaricatus* L.]
- Eurybia macrophylla* (L.) Cass., 1945 L.K. Henry s.n. [*Aster macrophyllus* L.]
- Eurybia schreberi* (Nees) Nees, 1991 W.A. Zanol 866 [*Aster schreberi* Nees]
- Euthamia graminifolia* (L.) Nutt., 1998 B.L. Isaac and J.A. Isaac 11657 [*Solidago graminifolia* (L.) Salisb.]
- Eutrochium fistulosum* (Barratt) E. Lamont, 1998 K. McGowan and M. Scanlon 288 [*Eupatorium fistulosum* Barratt]
- Eutrochium maculatum* (L.) E. Lamont var. *maculatum*, 1990 W.A. Zanol 225 [*Eupatorium maculatum* L. var. *maculatum*]
- Eutrochium purpureum* (L.) E. Lamont var. *purpureum*, 1994 W.A. Zanol 3456 [*Eupatorium purpureum* L. var. *purpureum*]
- Galinsoga quadriradiata* Cav., 1997 S.A. Thompson and B.L. Isaac 13869 Central and South America
- Gamochaeta purpurea* (L.) Cabrera, 1902 J.A. Shafer s.n. [*Gnaphalium purpureum* L. var. *purpureum*]

- Gnaphalium uliginosum* L., 1993 W.A. Zanol 2064 Europe  
*Hasteola suaveolens* (L.) Pojark., 1991 W.A. Zanol 881  
*Helenium autumnale* L., 1990 W.A. Zanol 306  
*Helenium flexuosum* Raf., 1950 M. McCrackan s.n.  
*Helianthus annuus* L., 1990 W.A. Zanol 187  
*Helianthus decapetalus* L., 1990 W.A. Zanol 1  
*Helianthus divaricatus* L., 1994 W.A. Zanol 3485  
*Helianthus giganteus* L., 1994 W.A. Zanol 3484  
*Helianthus grosseserratus* Martens, 1914 J. Bright s.n.  
*Helianthus hirsutus* Raf., 1982 W.E. Buker s.n. G5:S2  
*Helianthus microcephalus* Torr. & A. Gray, 1994 W.A. Zanol 3749 G5:S3  
*Helianthus mollis* Lam., 1931 Turner s.n.  
*Helianthus strumosus* L., 1962 N.R. Farnsworth WP-43  
*Helianthus tuberosus* L., 1994 W.A. Zanol 3463  
*Helianthus x laetiflorus* Pers. (pro sp.), 1916 O.E. Jennings s.n.  
*Heliopsis helianthoides* (L.) Sweet var. *helianthoides*, 2001 S.N. Costabile 27  
*Hieracium aurantiacum* L., 2001 S.N. Costabile 13 Europe  
*Hieracium caespitosum* Dumort., 1998 K. McGowan and M. Scanlon 209 Europe  
*Hieracium lachenalii* K.C. Gmel., 1950 W.E. Buker s.n. Europe  
*Hieracium paniculatum* L., 1945 W.E. Buker s.n.  
*Hieracium piloselloides* Vill., 1991 W.A. Zanol 705 Europe  
*Hieracium scabrum* Michx., 1998 B.L. Isaac and J.A. Isaac 11645  
*Hieracium venosum* L., 1945 L.K. Henry s.n.  
*Hypochaeris radicata* L., 1947 W.E. Buker s.n. Eurasia  
*Inula helenium* L., 1902 J.E. Winner s.n. Europe  
*Krigia biflora* (Walt.) Blake var. *biflora*, 1946 W.E. Buker s.n.  
*Lactuca biennis* (Moench) Fern., 1990 E. Bright 10  
*Lactuca canadensis* L., 1997 S.A. Thompson and B.L. Isaac 14159  
*Lactuca floridana* (L.) Gaertn., 1969 W.E. Buker s.n.  
*Lactuca saligna* L., 1947 L.K. Henry s.n. Europe  
*Lactuca sativa* L., 1963 N.R. Farnsworth WP-440 Mediterranean  
*Lactuca serriola* L., 1994 W.A. Zanol 3747 Europe  
*Lapsana communis* L., 1997 S.A. Thompson and J.E. Rawlins and R. Androw 13521 Europe  
*Leontodon autumnalis* L., 1935 O.E. Jennings s.n. Europe  
*Leontodon saxatilis* Lam. ssp. *saxatilis*, 1929 F.L. Hower s.n. Europe [*Leontodon taraxcoides* (Vill.) Merat]  
*Leucanthemum vulgare* Lam., 1985 M. Macdonald LSCW116 Europe [*Chrysanthemum leucanthemum* L.]  
*Matricaria discoidea* DC., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13563 Exotic [*Matricaria matricarioides* auct. non (Less.) Porter]  
*Onopordum acanthium* L., 1898 J.A. Shafer s.n. Eurasia  
*Packera aurea* (L.) A. & D. Löve, 1998 K. McGowan and M. Scanlon 121 [*Senecio aureus* L.]  
*Packera obovata* (Muhl. ex Willd.) W.A. Weber, 1965 N.R. Farnsworth WP-1027 [*Senecio obovatus* Muhl. ex Willd.]  
*Picris hieracioides* L. ssp. *hieracioides*, 1918 J. Bright s.n. Eurasia  
*Polymnia canadensis* L., 1945 E. Mason s.n. G5:SNR  
*Prenanthes alba* L., 1959 L.K. Henry s.n.  
*Prenanthes altissima* L., 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15182  
*Prenanthes crepidinea* Michx., 1932 J. Bright 7691  
*Pseudognaphalium macounii* (Greene) Kartesz, 1898 J.A. Shafer s.n. [*Gnaphalium macounii* Greene]  
*Pseudognaphalium obtusifolium* (L.) Hilliard & Burt ssp. *obtusifolium*, 1994 W.A. Zanol 3753 [*Gnaphalium obtusifolium* L.]  
*Ratibida pinnata* (Vent.) Barnh., 1954 O.E. Jennings s.n. G5:S1  
*Rudbeckia fulgida* Ait. var. *speciosa* (Wenderoth) Perdue, 1928 J. Bright 648 G5:S3 [*Rudbeckia fulgida* Ait. var. *sullivantii* (C.L. Boynt. & Beadle) Cronq.]  
*Rudbeckia hirta* L. var. *hirta*, 1998 K. McGowan and M. Scanlon 241  
*Rudbeckia laciniata* L. var. *laciniata*, 1998 K. McGowan and M. Scanlon 346  
*Rudbeckia triloba* L. var. *triloba*, 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15208  
*Senecio vulgaris* L., 1993 W.A. Zanol 2156 Eurasia  
*Sericocarpus asteroides* (L.) B.S.P., 2002 S.P. Grund and M.L. Speedy 2894  
*Silphium asteriscus* L. var. *trifoliatum* (L.) J.A. Clevinger, 1994 F.H. Utech and T.D. Jacobsen and R.W. Kiger 94-2280 [*Silphium trifoliatum* L.]  
*Silphium laciniatum* L., 1889 C.C. Mellor s.n.  
*Silphium perfoliatum* L. var. *perfoliatum*, 1953 L.K. Henry and D.E. Long s.n.  
*Smallanthus uvedalius* (L.) Mackenzie ex Small, 1903 B.H. Patterson s.n. G4G5:SNR [*Polymnia uvedalia* (L.) L.]  
*Solidago altissima* L. ssp. *altissima*, 2003 C. Tracey 2003-0012  
*Solidago arguta* Ait. var. *arguta*, 1917 B.H. Patterson s.n.  
*Solidago bicolor* L., 2000 R.B. Coxe s.n.  
*Solidago caesia* L. var. *caesia*, 1998 K. McGowan and M. Scanlon 392 [*Solidago caesia* L. var. *axillaris* (Pursh) A. Gray]  
*Solidago canadensis* L. var. *canadensis*, 1990 W.A. Zanol 185  
*Solidago canadensis* L. var. *hargerii* Fern., 1939 R.W. Little s.n.  
*Solidago flexicaulis* L., 1997 S.A. Thompson and B.L. Isaac and M.A. Rosenberger 14120  
*Solidago gigantea* Ait., 1997 S.A. Thompson and B.L. Isaac and M.A. Rosenberger 14099  
*Solidago juncea* Ait., 2000 R.B. Coxe s.n.  
*Solidago nemoralis* Ait. var. *nemoralis*, 1998 B.L. Isaac and J.A. Isaac 11652  
*Solidago patula* Muhl. ex Willd. var. *patula*, 1950 D.H. Krouse s.n.  
*Solidago rugosa* P. Mill. ssp. *aspera* var. *aspera* (Ait.) Cronq., 1965 N.R. Farnsworth WP-542  
*Solidago rugosa* P. Mill. ssp. *rugosa* var. *rugosa* (Pursh) Fern., 1997 S.A. Thompson and B.L. Isaac and M.A. Rosenberger 14098  
*Solidago speciosa* Nutt. ssp. *speciosa* var. *speciosa*, 1927 E. Wallace s.n. G5T5?:SNR  
*Solidago squarrosa* Muhl., 1990 W.A. Zanol 355  
*Solidago ulmifolia* Muhl. ex Willd. var. *ulmifolia*, 1996 L.L. Smith and R. Hawk 78  
*Sonchus asper* (L.) Hill, 1994 W.A. Zanol 3766 Europe

- Sonchus arvensis* L. ssp. *arvensis*, 1945 W.E. Buker s.n. Europe
- Sonchus arvensis* L. ssp. *uliginosus* (Bieb.) Nyman, 1994 W.A. Zanol 3494 Europe
- Sonchus oleraceus* L., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13589 Europe
- Symphotrichum cordifolium* (L.) Nesom, 1997 S.A. Thompson and B.L. Isaac 14166 [*Aster cordifolius* L.]
- Symphotrichum drummondii* (Lindl.) Nesom var. *drummondii*, 1912 B.H. Patterson s.n. G5:SH [*Aster drummondii* Lindl.]
- Symphotrichum laeve* (L.) A. & D. Löve var. *laeve*, 1944 L.K. Henry s.n. [*Aster laevis* L. var. *laevis*]
- Symphotrichum lanceolatum* (Willd.) Nesom ssp. *lanceolatum* var. *interior* (Wieg.) Nesom, 1921 M. Knauz s.n. [*Aster lanceolatus* Willd. ssp. *interior* (Wieg.) A.G. Jones]
- Symphotrichum lanceolatum* (Willd.) Nesom ssp. *lanceolatum* var. *lanceolatum*, 1990 W.A. Zanol 119 [*Aster simplex* Willd. var. *simplex*]
- Symphotrichum lateriflorum* (L.) A. & D. Löve var. *horizontale* (Desf.) Nesom, 1944 L.K. Henry s.n. [*Aster lateriflorus* (L.) Britt. var. *pendulus* (Ait.) Burgess]
- Symphotrichum lateriflorum* (L.) A. & D. Löve var. *lateriflorum*, 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15174 [*Aster lateriflorus* (L.) Britt.]
- Symphotrichum novae-angliae* (L.) Nesom, 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15211 [*Aster novae-angliae* L.]
- Symphotrichum oblongifolium* (Nutt.) Nesom, 1965 N.R. Farnsworth WP-981 [*Aster oblongifolius* Nutt.]
- Symphotrichum patens* (Ait.) Nesom var. *patens*, 1914 B.H. Patterson s.n. [*Aster patens* Ait.]
- Symphotrichum phlogifolium* (Muhl. ex Willd.) Nesom, 1922 J. Bright s.n. [*Aster phlogifolium* Muhl. ex Willd.]
- Symphotrichum pilosum* (Willd.) Nesom var. *pilosum*, 1998 B.L. Isaac and J.A. Isaac 11650 [*Aster pilosus* Willd.]
- Symphotrichum pilosum* (Willd.) Nesom var. *pringlei* (A. Gray) Nesom, 1966 R.N. Blomster WP-652 [*Aster pilosus* Willd. var. *pringlei* (A. Gray) S.F. Blake]
- Symphotrichum praealtum* (Poir.) Nesom var. *angustior* (Wieg.) Nesom, 1998 B.L. Isaac and J.A. Isaac 11658 G5:S3 [*Aster praealtus* Poir. var. *angustior* Wieg.]
- Symphotrichum praealtum* (Poir.) Nesom var. *praealtum*, 1990 W.A. Zanol 379 [*Aster praealtus* Poir.]
- Symphotrichum prenanthoides* (Muhl. ex Willd.) Nesom, 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15173 [*Aster prenanthoides* Muhl. ex Willd.]
- Symphotrichum puniceum* (L.) A. & D. Löve var. *puniceum*, 1990 W.A. Zanol 370 [*Aster puniceus* L.]
- Symphotrichum shortii* (Lindl.) Nesom, 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15172 [*Aster shortii* Lindl.]
- Symphotrichum undulatum* (L.) Nesom, 1949 E. Mason s.n. [*Aster undulatum* L.]
- Symphotrichum urophyllum* (Lindl.) Nesom, 1966 R.N. Blomster WP-659 [*Aster urophyllum* Lindl.]
- Tanacetum parthenium* (L.) Schultz-Bip., 2001 J.A. Isaac 13624 Europe [*Chrysanthemum parthenium* (L.) Bernh.]
- Tanacetum vulgare* L., 1994 W.A. Zanol 2862 Europe
- Taraxacum laevigatum* (Willd.) DC., 1922 J. Bright s.n. Eurasia
- Taraxacum officinale* G.H. Weber ex Wiggers, 1998 S.A. Thompson and M. Burroughs 14395 Eurasia
- Tragopogon dubius* Scop., 1997 B.L. Isaac and J.A. Isaac 9610 Europe
- Tragopogon lamottei* Rouy, 1965 N.R. Farnsworth WP-1134 Europe [*Tragopogon pratensis* L.]
- Tussilago farfara* L., 1998 B.L. Isaac and M. Rosenberger 10210 Eurasia
- Verbesina alternifolia* (L.) Britt. ex Kearney, 1997 S.A. Thompson and J.E. Rawlins 13890
- Vernonia gigantea* (Walt.) Trel., 1998 K. McGowan and M. Scanlon 342
- Vernonia noveboracensis* (L.) Michx., 1990 W.A. Zanol 245
- Xanthium strumarium* L., 1997 S.A. Thompson and B.L. Isaac 14170

**Azollaceae**

*Azolla caroliniana* Willd., 1996 J. Wagner and P. Youngand s.n.

**Balsaminaceae**

*Impatiens capensis* Meerb., 2001 S.N. Costabile 17

*Impatiens pallida* Nutt., 1998 K. McGowan and M. Scanlon 299

**Berberidaceae**

*Berberis thunbergii* DC., 1998 K. McGowan and M. Scanlon 291 Japan

*Berberis vulgaris* L., 1939 W.C. Grimm and B. McCluske s.n. Europe

*Caulophyllum thalictroides* (L.) Michx., 1997 S.A. Thompson and M. Sally 13497

*Jeffersonia diphylla* (L.) Pers., 1945 H.D. Gill s.n.

*Podophyllum peltatum* L., 1998 K. McGowan and M. Scanlon 101

**Betulaceae**

*Alnus serrulata* (Ait.) Willd., 2004 C. Tracey and P.J. Gruszka and M.B. Steisslinger 2004-0030 [*Alnus serrulata* (Ait.) Willd. var. *subelliptica* Fern.]

*Betula alleghaniensis* Britt., 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15145

*Betula lenta* L., 1997 S.A. Thompson and B.L. Isaac 14198

*Betula papyrifera* Marsh. var. *papyrifera*, 1982 W.E. Buker s.n.

*Carpinus caroliniana* Walt. ssp. *virginiana* (Marsh.) Furlow, 1998 K. McGowan and M. Scanlon 219

*Corylus americana* Marsh., 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14346

*Corylus cornuta* Marsh. var. *cornuta*, 1922 J. Bright s.n.

*Ostrya virginiana* (P. Mill.) K. Koch, 1998 K. McGowan and B.L. Isaac and M. Scanlon 28

**Bignoniaceae**

*Campsis radicans* (L.) Seem. ex Bureau, 1906 J.A. Shafer s.n.

*Catalpa bignonioides* Walt., 1997 S.A. Thompson and B.L. Isaac and M. Sally 13449

*Catalpa speciosa* Warder ex Engelm., 1998 S.A. Thompson and B.L. Isaac 14941

**Boraginaceae**

*Buglossoides arvensis* (L.) I.M. Johnston, 1970 W.E. Buker s.n. Eurasia

- Cymbalaria muralis* P.G. Gaetrn., B. Mey., & Schreb, 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13601 Mediterranean
- Cynoglossum officinale* L., 1913 J. Bright s.n. Eurasia
- Cynoglossum virginianum* L. var. *virginianum*, 1947 W.E. Buker s.n.
- Echium pustulatum* Sibthorp & Sm., 1997 S.A. Thompson and B.L. Isaac 14194 Europe [*Echium vulgare* L. var. *pustulatum* (Sibthorp & Sm.) Coincy]
- Echium vulgare* L., 1997 S.A. Thompson and B.L. Isaac and M. Sally 13457 Europe
- Hackelia virginiana* (L.) I.M. Johnston, 1997 S.A. Thompson and B.L. Isaac 13880
- Heliotropium europaeum* L., 1973 W.E. Buker s.n. Europe
- Lappula squarrosa* (Retz.) Dumort, 1982 W.E. Buker s.n. Eurasia [*Lappula echinata* Gilib. var. *echinata*]
- Lithospermum canescens* (Michx.) Lehm., 1954 M.C. Bowman s.n. G5:S2
- Lithospermum latifolium* Michx., 1891 A. Koenig s.n. G4:S4
- Mertensia virginica* (L.) Pers. ex Link, 1991 W.A. Zanol 453
- Myosotis arvensis* (L.) Hill, 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14317 Eurasia
- Myosotis laxa* Lehm., 2000 R.B. Coxe s.n.
- Myosotis macrosperma* Engelm., 1998 K. McGowan and M. Scanlon 106
- Myosotis scorpioides* L., 1990 W.A. Zanol 102 Europe
- Myosotis verna* Nutt., 1946 W.E. Buker s.n. [*Myosotis virginica* auct. non (L.) B.S.P.]
- Symphytum officinale* L., 1994 W.A. Zanol 3486 Eurasia
- Brassicaceae**
- Alliaria petiolata* (Bieb.) Cavara & Grande, 2002 M.L. Young and B.R. Swiech 2 Europe
- Arabidopsis lyrata* (L.) O'Kane & Al-Shehbaz ssp. *lyrata*, 1997 B.L. Isaac and J.A. Isaac 9622 [*Arabis lyrata* L.]
- Arabidopsis thaliana* (L.) Heynh., 2002 B.L. Isaac and J.A. Isaac 14370 Eurasia
- Armoracia rusticana* P.G. Gaetrn., B. Mey, Scherb., 1941 E. Mason s.n. Eurasia
- Barbarea vulgaris* Ait. f., 1998 K. McGowan and M. Scanlon 127 Eurasia
- Berteroa incana* (L.) DC., 1970 W.E. Buker s.n. Europe
- Boechera burkii* (Porter) Windham & Al-Shehbaz, 1929 O.E. Jennings s.n. [*Arabis laevigata* (Muhl. ex Willd.) Poir. var. *burkii* Porter]
- Boechera canadensis* Al-Shehbaz, 1947 E. Mason s.n. [*Arabis canadensis* L.]
- Boechera laevigata* (Muhl. ex Willd.) Al-Shehbaz, 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14377 [*Arabis laevigata* (Muhl. ex Willd.) Poir.]
- Boechera shortii* (Fern.) Al-Shehbaz, 1964 W.E. Buker s.n. [*Arabis shortii* (Fern.) Gleason]
- Brassica juncea* (L.) Czern., 1965 N.R. Farnsworth WP-1052 Eurasia
- Brassica nigra* (L.) W.D.J. Koch, 1992 W.A. Zanol 1111 Eurasia
- Brassica rapa* L. var. *rapa*, 1946 W.E. Buker s.n. Europe [*Brassica rapa* L. ssp. *olifera* DC.]
- Camelina microcarpa* Andr. ex DC., 1979 D.E. Boufford and E.W. Wood and W.E. Buker 21123 Eurasia
- Capsella bursa-pastoris* (L.) Medik., 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14309 Eurasia
- Cardamine angustata* O.E. Schulz, 1947 L. Black 462
- Cardamine bulbosa* (Schreb. ex Muhl.) B.S.P., 1991 W.A. Zanol 535
- Cardamine concatenata* (Michx.) Sw., 1999 B.L. Isaac and T. Herman 11773
- Cardamine diphylla* (Michx.) Wood, 1997 J.D. Wagner 1497
- Cardamine douglassii* Britt., 1922 O.E. Jennings s.n.
- Cardamine flexuosa* With., 1996 A.W. Cusick 33096 Europe
- Cardamine hirsuta* L., 1998 K. McGowan and M. Scanlon 95 Europe
- Cardamine impatiens* L., 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14304 Europe
- Cardamine parviflora* L. var. *arenicola* (Britt.) O.E. Schulz, 1901 J.A. Shafer 300
- Cardamine pensylvanica* Muhl. ex Willd., 2002 B.L. Isaac and J.A. Isaac 14384
- Cardamine rotundifolia* Michx., 1992 W.A. Zanol 978
- Cardaria draba* (L.) Desv., 1940 W. Hutchman s.n. Eurasia
- Conringia orientalis* (L.) Dumort., 1920 N. McCallum s.n. Eurasia
- Diploaxis tenuifolia* (L.) DC., 1971 G. Wallace s.n. Europe
- Draba verna* L., 1931 S.H. Shaw s.n. Europe
- Erysimum cheiranthoides* L., 1901 J.A. Shafer 134 Eurasia
- Hesperis matronalis* L., 2001 S.N. Costabile 1 Europe
- Iberis umbellata* L., 1966 W.E. Buker s.n. Europe
- Iodanthus pinnatifidus* (Michx.) Steud., 1913 O.E. Jennings s.n. G5:S1
- Lepidium campestre* (L.) Ait. f., 1998 K. McGowan and M. Scanlon 175 Eurasia
- Lepidium densiflorum* Schrad. var. *densiflorum*, 1933 J. Bright 8853
- Lepidium virginicum* L. var. *virginicum*, 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13598
- Lobularia maritima* (L.) Desv., 1994 A.W. Cusick 31799 Mediterranean
- Lunaria annua* L., 1988 S.A. Thompson and F. Wright 5081 Europe
- Lunaria rediviva* L., 1975 W.E. Buker s.n. Europe
- Microthlaspi perfoliatum* (L.) F.K. Mey, 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13557 Eurasia [*Thlaspi perfoliatum* L.]
- Nasturtium officinale* Ait. f., 2000 R.B. Coxe s.n. [*Rorippa nasturtium-aquaticum* (L.) Hayek]
- Raphanus raphanistrum* L., 1945 W.E. Buker s.n. Mediterranean
- Raphanus sativus* L., 1925 E.H. Graham s.n. Mediterranean
- Rorippa palustris* (L.) Bess. ssp. *fernaldiana* (Butters & Abbe) Jonsell, 1993 W.A. Zanol 2074
- Rorippa palustris* (L.) Bess. ssp. *hispidula* (Desv.) Jonsell, 1916 J. Bright s.n.
- Rorippa sylvestris* (L.) Bess., 1997 S.A. Thompson and B.L. Isaac and M. Sally 13492 Europe
- Sinapis arvensis* L., 1964 N.R. Farnsworth WP-756 Mediterranean

- Sisymbrium altissimum* L., 1993 F.W. Wright Jr. 106 Eurasia  
*Sisymbrium officinale* (L.) Scop. 1945 W.E. Buker s.n. Europe  
 [*Sisymbrium officinale* (L.) Scop. var. *leiocarpum* DC.]  
*Thlaspi arvense* L., 1994 W.A. Zanol 2432 Europe  
*Turritis glabra* L., 1946 W.E. Buker s.n. [*Arabis glabra* (L.)  
 Bernh.]

**Buddlejaceae**

- Buddleja davidii* Franch., 1997 S.A. Thompson and B.L. Isaac  
 13632 China

**Cactaceae**

- Opuntia humifusa* (Raf.) Raf., 1944 O.E. Jennings s.n. G5:S3

**Callitrichaceae**

- Callitriche heterophylla* Pursh ssp. *heterophylla*, 1924 J. Bright  
 s.n.  
*Callitriche palustris* L., 1913 J. Bright s.n. [*Callitriche verna* L.  
 var. *verna*]  
*Callitriche terrestris* Raf. Emend Torr., 1964 L.K. Henry s.n.

**Calycanthaceae**

- Calycanthus floridus* L. var. *floridus*, 1998 S.A. Thompson and  
 B. Isaac and J. Isaac and F.H. Utech 14380

**Campanulaceae**

- Campanula aparinoides* Pursh, 1932 C.M. Hepner s.n.  
*Campanula rapunculoides* L., 1988 E. Lobdell 79 Eurasia  
*Campanula rotundifolia* L., 1918 J. Bright s.n.  
*Campanulastrum americanum* (L.) Small, 1998 K. McGowan  
 and M. Scanlon 317 [*Campanula americana* L.]  
*Lobelia cardinalis* L., 1925 J. Bright s.n.  
*Lobelia inflata* L., 1998 K. McGowan and M. Scanlon 265  
*Lobelia siphilitica* L., 1998 S.A. Thompson and B.L. Isaac and  
 J.A. Isaac 15202  
*Lobelia spicata* Lam. var. *spicata*, 1982 S.A. Thompson and  
 W.E. Buker 460  
*Triodanis perfoliata* (L.) Nieuwl., 1991 W.A. Zanol 589

**Cannabaceae**

- Humulus japonicus* Sieb. & Zucc., 1997 S.A. Thompson and  
 B.L. Isaac 14126 Asia  
*Humulus lupulus* L. var. *lupuloides* E. Small, 1932 G.K. Jennings  
 and O.E. Jennings s.n.

**Capparaceae**

- Cleome hassleriana* Chod., 1946 W.E. Buker s.n. Tropical  
 America  
*Cleome spinosa* Jacq., 1898 J.A. Shafer s.n.  
*Polanisia dodecandra* (L.) DC. ssp. *dodecandra*, 1961 H. Ros-  
 lund s.n.  
*Polanisia dodecandra* (L.) DC. ssp. *trachysperma* (Torr. & A. Gray)  
 Iltis, 1932 C.M. Boardman s.n.

**Caprifoliaceae**

- Diervilla lonicera* P. Mill., 1945 W.E. Buker and M. Henrici s.n.  
*Lonicera canadensis* Bartr. ex Marsh., 1945 L.K. Henry s.n.  
*Lonicera dioica* L., 1912 J. Bright s.n. [*Lonicera dioica* L. var.  
*glaucescens* (Rydb.) Butters]  
*Lonicera japonica* Thunb., 2001 S.N. Costabile 12 Asia  
*Lonicera maackii* (Rupr.) Herder, 2002 B.L. Isaac and J.A. Isaac  
 14385 Asia

- Lonicera morrowii* A. Gray, 2002 S.P. Grund and M.L. Speedy  
 2899 Japan  
*Lonicera sempervirens* L., 1945 W.E. Buker s.n.  
*Lonicera tatarica* L., 2002 B.L. Isaac and J.A. Isaac 14337  
 Eurasia  
*Sambucus nigra* L. ssp. *canadensis* (L.) R. Bolli, 1998 S.A.  
 Thompson and B.L. Isaac and J.A. Isaac 15085 [*Sambucus*  
*canadensis* L.]  
*Sambucus nigra* L. ssp. *nigra*, 1911 D.R. Sumstine s.n. Exotic  
 [*Sambucus nigra* L. var. *laciniata* L.]  
*Sambucus racemosa* L. var. *racemosa*, 1987 F.H. Utech 87-045  
 [*Sambucus racemosa* L. ssp. *pubens* (Michx.) House]  
*Symphoricarpos albus* (L.) Blake var. *laevigatus* (Fern.) Blake,  
 1920 O.E. Jennings and L.C. Demoise s.n.  
*Symphoricarpos orbiculatus* Moench, 1958 M. Reynolds s.n.  
*Triosteum aurantiacum* Bickn. var. *glaucescens* Wieg., 1913  
 O.E. Jennings s.n.  
*Triosteum aurantiacum* Bickn. var. *illinoense* (Wieg.) Palmer &  
 Steyermark, 1998 B.L. Isaac and J.A. Isaac 11756  
*Triosteum perfoliatum* L., 1923 O.E. Jennings s.n.  
*Viburnum acerifolium* L., 1998 S.A. Thompson and B.L. Isaac  
 14983  
*Viburnum dentatum* L. var. *dentatum*, 2002 M.L. Young and  
 B.R. Swiech 8  
*Viburnum dentatum* L. var. *lucidum* Ait., 1998 S.A. Thompson  
 and B.L. Isaac and J.A. Isaac 15112 [*Viburnum recognitum*  
 Fern.]  
*Viburnum dilatatum* Thunb., 1997 S.A. Thompson and B.L. Isaac  
 and M.A. Rosenberger 14114 Asia  
*Viburnum lantana* L., 1998 S.A. Thompson and B. Isaac and J.  
 Isaac and F.H. Utech 14367 China  
*Viburnum lentago* L., 1998 S.A. Thompson and B.L. Isaac and  
 J.A. Isaac 15100  
*Viburnum opulus* L. var. *opulus*, 1997 S.A. Thompson and B.L.  
 Isaac and M.A. Rosenberger 14118 Eurasia  
*Viburnum plicatum* Thunb., 2002 B.L. Isaac and J.A. Isaac  
 14371 Asia  
*Viburnum prunifolium* L., 1997 B.L. Isaac and M.A. Rosenberger  
 10169  
*Viburnum rafinesquianum* J.A. Schultes, 1920 O.E. Jennings s.n.  
*Viburnum sieboldii* Miq., 1998 S.A. Thompson and B. Isaac and  
 J. Isaac and F.H. Utech 14319 Japan

**Caryophyllaceae**

- Agrostemma githago* L., 1970 W.E. Buker s.n. Europe  
*Arenaria serpyllifolia* L. var. *serpyllifolia*, 1997 S.A. Thompson  
 13439 Europe  
*Cerastium arvense* L. ssp. *arvense*, 1888 J. McCandless s.n.  
*Cerastium arvense* L. ssp. *strictum* (L.) Ugborogho, B.H. Pat-  
 terson s.n.  
*Cerastium fontanum* Baumg. ssp. *vulgare* (Hartman) Greuter  
 & Burdet, 2001 B.L. Isaac and J. Isaac and C. Chuey and S.  
 Grund 13556 Eurasia [*Cerastium vulgatum* L.]  
*Cerastium glomeratum* Thuill., 1998 K. McGowan and M.  
 Scanlon 192 Eurasia  
*Cerastium nutans* Raf. var. *nutans*, 1947 E. Mason s.n.  
*Dianthus armeria* L., 1998 K. McGowan and M. Scanlon 236  
 Europe

- Dianthus deltoides* L., 1991 W.A. Zanol 583 Eurasia  
*Minuartia glabra* (Michx.) Mattf., 1887 J.A. Shafer s.n. G4:52  
*Myosoton aquaticum* (L.) Moench, 1998 K. McGowan and M. Scanlon 386 Europe  
*Paronychia canadensis* (L.) Wood, 1997 B.L. Isaac and J.A. Isaac 9639  
*Paronychia fastigiata* (Raf.) Fern. var. *fastigiata*, 1947 L.K. Henry s.n.  
*Sagina procumbens* L., 2002 B.L. Isaac and J.A. Isaac 14343 Eurasia  
*Saponaria officinalis* L., 2002 H. George s.n. Europe  
*Scleranthus annuus* L., 1970 W.E. Buker and W.C. Buker s.n. Eurasia  
*Silene antirrhina* L., 1997 S.A. Thompson and B.L. Isaac and M. Sally 13469  
*Silene caroliniana* Walt. ssp. *pennsylvanica* (Michx.) Clausen, 1997 B.L. Isaac and J.A. Isaac 9605  
*Silene coronaria* (L.) Clairville, 1901 J.A. Shafer s.n. Europe [*Lychnis coronaria* (L.) Desr.]  
*Silene dichotoma* Ehrh., 1914 B.H. Patterson s.n. Eurasia  
*Silene dioica* (L.) Clairville, 1933 J. Bright 8711 Europe [*Lychnis dioica* L.]  
*Silene latifolia* Poir., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13554 Europe  
*Silene nivea* (Nutt.) Muhl. ex Otth, 1945 L.K. Henry s.n.  
*Silene noctiflora* L., 1912 J. Bright s.n. Europe  
*Silene stellata* (L.) Ait. f., 1963 W.E. Buker s.n.  
*Silene virginica* L., 1991 W.A. Zanol 546  
*Silene vulgaris* (Moench) Garcke, 2002 B.L. Isaac and J.A. Isaac 14367 Europe [*Silene latifolia* (P. Mill.) Britten & Rendle, non Poir.]  
*Spergula arvensis* L., 1915 J. Bright s.n. Eurasia  
*Stellaria corei* Shinnars, 2001 J.A. Isaac 13541  
*Stellaria graminea* L., 1998 S.A. Thompson and M. Burroughs 14387 Europe  
*Stellaria holostea* L., 1899 J.A. Shafer s.n. Eurasia  
*Stellaria longifolia* Muhl. ex Willd., 1994 F.H. Utech and T.D. Jacobsen and R.W. Kiger 94-2269  
*Stellaria pubera* Michx., 1927 C.K. Henlen s.n.  
*Stellaria media* (L.) Vill., 1998 S.A. Thompson and J. Rawlins and K. McGowan 14259 Europe  
*Vaccaria hispanica* (P. Mill.) Rauschert, 1947 W.E. Buker s.n. Europe [*Vaccaria pyramidata* Medik.]

#### Celastraceae

- Celastrus orbiculatus* Thunb., 2002 B.L. Isaac and J.A. Isaac 14346 China and Japan  
*Celastrus scandens* L., 1940 E. Mason s.n.  
*Euonymus alatus* (Thunb.) Sieb. var. *alatus*, 1998 B.L. Isaac and J.A. Isaac 11601 China and Japan  
*Euonymus atropurpureus* Jacq. var. *atropurpureus*, 1992 W.A. Zanol 1173  
*Euonymus obovatus* Nutt., 1953 W.E. Buker s.n.

#### Cercidiphyllaceae

- Cercidiphyllum japonicum* Sieb. & Zucc. ex J. Hoffmann, 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13618 Japan

#### Chenopodiaceae

- Atriplex patula* L., 1940 O.E. Jennings s.n.  
*Atriplex prostrata* Boucher ex DC., 1947 D.H. Krouse s.n. [*Atriplex patula* L.]  
*Bassia scoparia* (L.) A.J. Scott, 1986 A.W. Cusick 25788 Europe [*Kochia scoparia* (L.) Schrad.]  
*Chenopodium album* L. var. *album*, 1918 O.E. Jennings s.n. Europe [*Chenopodium album* L. var. *lanceolatum* (Muhl. ex Willd.) Coss. & Germ.]  
*Chenopodium album* L. var. *missouriense* (Aellen) I.J. Bassett & C.W. Crompton, 1994 W.A. Zanol 3760  
*Chenopodium berlandieri* Moq. var. *bushianum* (Aellen) Cronq., 1951 W.E. Buker s.n. [*Chenopodium bushianum* Aellen]  
*Chenopodium glaucum* L. var. *glaucum*, 1902 J.A. Shafer 27 Europe  
*Chenopodium murale* L., 1923 J. Bright s.n. Europe  
*Chenopodium simplex* (Torr.) Raf., 1912 J. Bright s.n. [*Chenopodium gigantospermum* Aellen]  
*Chenopodium standleyanum* Aellen, 1900 J.A. Shafer s.n.  
*Chenopodium urbicum* L., 1900 J.A. Shaeffer s.n. Europe  
*Cycloloma atriplicifolium* (Spreng.) Coult., 1923 J. Bright s.n.  
*Dysphania ambrosioides* (L.) Mosyakin & Clemants, 1993 W.A. Zanol 2071 Tropical America [*Chenopodium ambrosioides* L.]  
*Dysphania botrys* (L.) Mosyakin & Clemants, 1997 S.A. Thompson and B.L. Isaac 14258 Europe [*Chenopodium botrys* L.]  
*Salsola tragus* L., 1973 M. Leitzel s.n. Eurasia [*Salsola kali* L. ssp. *tenuifolia* Moq.]

#### Cistaceae

- Helianthemum bicknellii* Fern., 1917 B.H. Patterson s.n. G5:52  
*Lechea pulchella* Raf. var. *pulchella*, 1921 O.E. Jennings s.n.  
*Lechea racemulosa* Michx., 1936 J.A. Churchill s.n.

#### Clethraceae

- Clethra alnifolia* L., 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14321

#### Clusiaceae

- Hypericum ascyron* L., 1917 H.J. Osborne s.n. [*Hypericum pyramidatum* Ait.]  
*Hypericum drummondii* (Grev. & Hook.) Torr. & A. Gray, 1917 B.H. Patterson s.n. G5:5X  
*Hypericum gentianoides* (L.) B.S.P., 1955 W.E. Buker s.n.  
*Hypericum ellipticum* Hook., 1945 W.E. Buker s.n.  
*Hypericum mutilum* L., 1997 S.A. Thompson and B.L. Isaac and M.A. Rosenberger 14100  
*Hypericum perforatum* L., 2002 H. George s.n. Europe  
*Hypericum prolificum* L., 2002 S.P. Grund and M.L. Speedy 2893  
*Hypericum punctatum* Lam., 1998 K. McGowan and M. Scanlon 378  
*Hypericum sphaerocarpum* Michx., 1921 J. Bright s.n.  
*Triadenum fraseri* (Spach) Gleason, 1900 J.A. Shafer 42

#### Commelinaceae

- Commelina communis* L., 2001 S.N. Costabile 19 Asia  
*Tradescantia ohiensis* Raf., 1946 W.E. Buker s.n. G5:54  
*Tradescantia virginiana* L., 1964 N.R. Farnsworth WP-757

**Convolvulaceae**

- Convolvulus arvensis* L., 1997 S.A. Thompson and B.L. Isaac 13644 Europe
- Calystegia hederacea* Wallich, 1918 J. Bright s.n. Japan [*Calystegia pellita* (Ledeb.) G. Don]
- Calystegia sepium* (L.) R. Br. ssp. *americana* (Sims) Brummit, 1952 W.E. Buker s.n.
- Calystegia sepium* (L.) R. Br. ssp. *angulata* Brummitt, 1990 W.A. Zanol 329
- Calystegia sepium* (L.) R. Br. ssp. *erratica* Brummitt, 1944 L.K. Henry s.n.
- Calystegia silvatica* (Kit.) Griseb. ssp. *fraterniflora* (Mackenzie & Bush) Brummitt, 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15092
- Calystegia spithamea* (L.) Pursh ssp. *spithamea*, 1937 O.E. Jennings s.n.
- Ipomoea hederacea* Jacq., 1927 J. Bright s.n.
- Ipomoea pandurata* (L.) G.F.W. Mey., 1954 O.E. Jennings s.n.
- Ipomoea purpurea* (L.) Roth, 1990 W.A. Zanol 260 Tropical America

**Cornaceae**

- Cornus alternifolia* L. f., 2001 S.N. Costabile 28
- Cornus amomum* P. Mill., 2004 C. Tracey and T. Witsell 2004-0027
- Cornus florida* L., 1998 K. McGowan and B.L. Isaac and M. Scanlon 35
- Cornus obliqua* Raf., 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15129
- Cornus racemosa* Lam., 1997 B.L. Isaac and M.A. Rosenberger 10168
- Nyssa biflora* Walt., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13591 [*Nyssa sylvatica* Marsh. var. *biflora* (Walt.) Sarg.]
- Nyssa sylvatica* Marsh., 1986 S.A. Thompson 3339

**Crassulaceae**

- Hylotelephium spectabile* (Boreau) H. Ohba., 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15177 Japan [*Sedum spectabile* Boreau]
- Hylotelephium telephium* (L.) H. Ohba. ssp. *telephium*, 1940 L.K. Henry s.n. Eurasia [*Sedum telephium* L.]
- Penthorum sedoides* L., 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15167
- Sedum acre* L., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13590 Eurasia
- Sedum sarmentosum* Bunge, 1997 S.A. Thompson and B.L. Isaac and M. Sally 13484 China
- Sedum ternatum* Michx., 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14353

**Cucurbitaceae**

- Cucurbita pepo* L. var. *pepo*, 1915 O.E. Jennings s.n. Exotic
- Echinocystis lobata* (Michx.) Torr. & A. Gray, 1994 W.A. Zanol 3468
- Sicyos angulatus* L., 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15138

**Cuscutaceae**

- Cuscuta coryli* Engelm., 1897 J.A. Shafer s.n. G5:SU

- Cuscuta gronovii* Willd. ex J.A. Shultes var. *gronovii*, 1998 K. McGowan and M. Scanlon 345
- Cuscuta pentagona* Engelm. var. *pentagona*, 1968 W.E. Buker s.n. G5:S3

**Cyperaceae**

- Bulbostylis capillaris* (L.) Kunth ex C.B. Clarke ssp. *capillaris*, 1982 W.W. Thomas and W.E. Buker 2976
- Carex aggregata* Mackenzie, 1997 B.L. Isaac and J.A. Isaac 9599 [*Carex sparganioides* Muhl. ex Willd. var. *aggregata* (Mackenzie) Gleason]
- Carex albicans* Willd. ex Spreng var. *albicans*, 1977 J. Marin s.n. [*Carex artitecta* Mackenzie]
- Carex albolutescens* Schwein., 1991 W.A. Zanol 582
- Carex albursina* Sheldon, 1969 W.E. Buker s.n.
- Carex amphibola* Steud., 1946 W.E. Buker s.n.
- Carex annectens* (Bickn.) Bickn., 1997 S.A. Thompson and B.L. Isaac 13849
- Carex appalachica* J. Webber & P.W. Ball, 2002 B.L. Isaac and J.A. Isaac 14338
- Carex atlantica* Bailey ssp. *atlantica*, 1900 J.A. Shafer s.n.
- Carex baileyi* Britt., 1924 H.W. Graham and W. Schiller s.n.
- Carex blanda* Dewey, 1997 B.L. Isaac and J.A. Isaac 9598
- Carex bromoides* Schkuhr ex Willd. ssp. *bromoides*, 1945 O.E. Jennings s.n.
- Carex bushii* Mackenzie, 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13587
- Carex buxbaumii* Wahlenb., 1890 B.H. Patterson s.n. G5:S3
- Carex careyana* Torr. ex Dewey, 1875 S.W. Knipe s.n. G4G5:S1
- Carex caroliniana* Schwein, 1922 J. Bright s.n.
- Carex cephaloidea* (Dewey) Dewey, 1991 J.A. Isaac 3644
- Carex cephalophora* Muhl. ex Willd., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13577
- Carex communis* Bailey var. *communis*, 1941 O.E. Jennings s.n.
- Carex conjuncta* Boott, 1924 J. Bright s.n. G4G5:S4
- Carex crinita* Lam. var. *crinita*, 1945 L.K. Henry s.n.
- Carex cristatella* Britt., 1994 F.H. Utech and T.D. Jacobsen and R.W. Kiger 94-2275
- Carex debilis* Michx. var. *rudgei* Bailey, 1893 B.H. Patterson s.n.
- Carex digitalis* Willd. var. *digitalis*, 2002 B.L. Isaac and J.A. Isaac 14342
- Carex emoryi* Dewey, 1926 J. Bright s.n.
- Carex festucacea* Schkuhr ex Willd., 1922 J. Bright s.n.
- Carex frankii* Kunth, 2003 C.M. Bowers s.n.
- Carex glaucoidea* Tuckerman ex Olney, 1923 J. Bright s.n.
- Carex gracilescens* Steud., 1926 J. Bright s.n.
- Carex gracillima* Schwein., 1924 H.W. Graham and W. Schiller s.n.
- Carex granularis* Muhl. ex Willd., 1991 W.A. Zanol 801
- Carex grayi* Carey, 1922 J. Bright s.n.
- Carex grisea* Wahlenb., 1998 S.A. Thompson and M. Burroughs 14405
- Carex gynandra* Schwein., 1982 W.E. Buker s.n.
- Carex hirsutella* Mackenzie, 1996 L.L. Smith and R. Hawk 48
- Carex hirtifolia* Mackenzie, 1919 J. Bright s.n.
- Carex hitchcockiana* Dewey, 1924 J. Bright s.n.

- Carex hystericina* Muhl. ex Willd., 1982 W.E. Buker s.n.  
*Carex jamesii* Schwein., 1925 J. Bright s.n.  
*Carex laevivaginata* (Kukenth.) Mackenzie, 2004 C. Tracey 2004-0002  
*Carex laxiculmis* Schwein. var. *copulata* (Bailey) Fern., 1925 J. Bright s.n. [*Carex x copulata* (Bailey) Mackenzie]  
*Carex laxiculmis* Schwein. var. *laxiculmis*, 1921 O.E. Jennings s.n.  
*Carex laxiflora* Lam., 1992 W.A. Zanol 985  
*Carex leptonevia* (Fern.) Fern., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13586  
*Carex lucorum* Willd. ex Link var. *lucorum*, 1907 O.E. Jennings s.n. [*Carex pensylvanica* Lam. var. *distans* Peck]  
*Carex lupulina* Muhl. ex Willd., 1922 J. Bright s.n.  
*Carex lurida* Wahlenb., 1991 W.A. Zanol 827  
*Carex mesochorea* Mackenzie, 2002 B.L. Isaac and J.A. Isaac 14336 [*Carex cephalophora* Muhl. ex Willd. var. *mesochorea* (Mackenzie) Gleason]  
*Carex molesta* Mackenzie ex Bright, 1936 J.A. Churchill s.n.  
*Carex muehlenbergii* Schkuhr ex Willd. var. *enervis* Boott, 1925 J. Bright s.n.  
*Carex normalis* Mackenzie, 1998 S.A. Thompson and M. Burroughs 14401  
*Carex oligocarpa* Schkuhr ex Willd., 1924 J. Bright s.n.  
*Carex pensylvanica* Lam., 1997 B.L. Isaac and J.A. Isaac 9596  
*Carex plantaginea* Lam., 1916 J. Bright s.n.  
*Carex platyphylla* Carey, 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14349  
*Carex prasina* Wahlenb., 1926 J. Bright s.n.  
*Carex projecta* Mackenzie, 1908 O.E. Jennings s.n.  
*Carex radiata* (Wahlenb.) Small, 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13578  
*Carex retroflexa* Muhl. ex Willd., 1921 O.E. Jennings s.n.  
*Carex rosea* Schkuhr ex Willd., 2002 B.L. Isaac and J.A. Isaac and S.P. Grund and McPherson 14355  
*Carex scabrata* Schwein, 1997 L.L. Smith 92  
*Carex scoparia* Schkuhr ex Willd. var. *scoparia*, 2003 C.M. Bowers s.n.  
*Carex shortiana* Dewey, 1945 O.E. Jennings s.n. G5:S3  
*Carex sparganioides* Muhl. ex Willd., 1980 D.E. Boufford and E.W. Wood 22159  
*Carex spicata* Huds., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13588 Europe  
*Carex squarrosa* L., 1922 J. Bright s.n.  
*Carex stipata* Muhl. ex Willd. var. *stipata*, 1991 W.A. Zanol 563  
*Carex swanii* (Fern.) Mackenzie, 1982 S.A. Thompson and W.E. Buker 464  
*Carex tonsa* (Fern.) Bickn. var. *rugosperma* (Mackenzie) Crins, 1922 J. Bright s.n.  
*Carex torta* Boott ex Tuckerman, 1991 W.A. Zanol 555  
*Carex tribuloides* Wahlenb. var. *tribuloides*, 1945 L.K. Henry s.n.  
*Carex typhina* Michx., 1925 J. Bright s.n. G5:S2  
*Carex umbellata* Schkuhr ex Willd., 1920 O.E. Jennings s.n. [*Carex abdita* Bickn.]  
*Carex virescens* Muhl. ex Willd., 1923 J. Bright s.n.  
*Carex vulpinoidea* Michx., 2003 C.M. Bowers s.n.  
*Cyperus bipartitus* Torr., 1935 C.M. Boardman s.n.  
*Cyperus echinatus* (L.) Wood, 1925 J. Bright s.n. [*Cyperus ovularis* (Michx.) Torr.]  
*Cyperus erythrorhizos* Muhl., 1891 T. Seal s.n.  
*Cyperus esculentus* L. var. *leptostachyus* Boeckl., 2004 C. Tracey and S. Miller 2004-0024  
*Cyperus lupulinus* (Spreng.) Marcks ssp. *lupulinus*, 1979 D.E. Boufford and E.W. Wood and W.E. Buker 21122 [*Cyperus filiculmis* auct. Non Vahl]  
*Cyperus lupulinus* (Spreng.) Marcks ssp. *macilentus* (Fern.) Marcks, 1902 J.A. Shafer s.n.  
*Cyperus strigosus* L., 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15168  
*Eleocharis acicularis* (L.) Roemer & J.A. Schultes var. *acicularis*, 1975 J.M. Eggers 12  
*Eleocharis obtusa* (Willd.) J.A. Schultes, 2003 C.M. Bowers s.n. G5TNR:S1  
*Eleocharis palustris* (L.) Roemer & J.A. Schultes, 1992 W.A. Zanol 1169  
*Eleocharis tenuis* (Willd.) J.A. Schultes var. *tenuis*, 1879 J.D. Shafer s.n.  
*Eriophorum virginicum* L., 1948 L.K. Henry s.n.  
*Fimbristylis autumnalis* (L.) Roemer & J.A. Schultes, 1891 J.D. Shafer s.n.  
*Kyllinga pumila* Michx., 1891 T. Seal s.n. [*Cyperus tenuifolius* (Steud.) Dandy]  
*Schoenoplectus acutus* (Muhl. Ex Bigelow) A. & D. Love var. *acutus*, 1940 O.E. Jennings s.n. G5:S2 [*Scirpus acutus* Muhl. ex Bigelow var. *acutus*]  
*Schoenoplectus pungens* (Vahl) Palla var. *pungens*, 1940 O.E. Jennings s.n.  
*Schoenoplectus tabernaemontani* (K.C. Gmel.) Palla, 1944 O.E. Jennings s.n. [*Scirpus validus* Vahl. var. *creber* Fern.]  
*Scirpus atrovirens* Willd., 1994 F.H. Utech and T.D. Jacobsen and R.W. Kiger 94-2273  
*Scirpus cyperinus* (L.) Kunth, 1993 L.L. Smith s.n.  
*Scirpus hattorianus* Makino, 1982 W.E. Buker s.n.  
*Scirpus georgianus* Harper, 1997 S.A. Thompson and B.L. Isaac 13851 [*Scirpus atrovirens* Willd. var. *georgianus* (Harper) Fern.]  
*Scirpus pendulus* Muhl., 1992 W.A. Zanol 1220  
*Scirpus polyphyllus* Vahl, 1998 K. McGowan and M. Scanlon 311  
*Trichophorum planifolium* (Spreng.) Palla, 1946 W.E. Buker s.n. [*Scirpus verecundus* Fern.]
- Dioscoreaceae**  
*Dioscorea polystachya* Turcz., 1929 O.E. Jennings s.n. Eastern Asia [*Dioscorea oppositifolia* L.]  
*Dioscorea villosa* L., 1992 W.A. Zanol 1174
- Dipsacaceae**  
*Dipsacus fullonum* L., 1997 S.A. Thompson and B.L. Isaac 13853 Europe [*Dipsacus sylvestris* Huds.]
- Ebenaceae**  
*Diospyros virginiana* L., 1934 H.M. McCracken s.n.
- Elaeagnaceae**  
*Elaeagnus umbellata* Thunb., 1998 K. McGowan and M. Scanlon 119 Asia



**Ericaceae**

- Epigaea repens* L., 1991 W.A. Zanol 512  
*Gaultheria procumbens* L., 1932 C.M. Hepner s.n.  
*Gaylussacia baccata* (Wangenh.) K. Koch, 1945 L.K. Henry s.n.  
*Kalmia latifolia* L., 1992 W.A. Zanol 1121  
*Lyonia ligustrina* (L.) DC. var. *ligustrina*, 1900 J.A. Shafer s.n.  
*Oxydendrum arboreum* (L.) DC., 1915 O.E. Jennings s.n.  
 G5:S354  
*Rhododendron arborescens* (Pursh.) Torr., 1894 A. Koenig s.n.  
*Rhododendron maximum* L., 1988 S. Miller 3  
*Rhododendron periclymenoides* (Michx.) Shinners, 1926 H.W. Graham s.n.  
*Rhododendron prinophyllum* (Small) Millais, 1945 L.K. Henry s.n.  
*Vaccinium angustifolium* Aiton, 1945 L.K. Henry s.n.  
*Vaccinium corymbosum* L., 1991 W.A. Zanol 494  
*Vaccinium pallidum* Ait., 2002 S.P. Grund and M.L. Speedy 2895  
*Vaccinium stamineum* L., 1992 W.A. Zanol 1154

**Euphorbiaceae**

- Acalypha deamii* (Weatherby) Ahles, 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15126 G4?:SX [*Acalypha rhomboidea* Raf. var. *deamii* (Weatherby) Weatherby]  
*Acalypha rhomboidea* Raf., 1997 S.A. Thompson and B.L. Isaac 14129  
*Acalypha virginica* L., 1923 J. Bright s.n.  
*Chamaesyce maculata* (L.) Small, 1997 S.A. Thompson and B.L. Isaac 14178 [*Euphorbia maculata* L.]  
*Chamaesyce nutans* (Lag.) Small, 1997 S.A. Thompson and B.L. Isaac 14128 [*Euphorbia nutans* Lag.]  
*Chamaesyce vermiculata* (Raf.) House, 1953 L.K. Henry and D.E. Long s.n. [*Euphorbia vermiculata* Raf.]  
*Euphorbia commutata* Engelm. ex A. Gray, 1960 E.J. Mason s.n.  
*Euphorbia corollata* L., 2000 R.B. Coxe s.n.  
*Euphorbia cyparissias* L., 1981 H.J. Kendall Jr. s.n. Eurasia  
*Euphorbia dentata* Michx. var. *dentata*, 1997 S.A. Thompson and B.L. Isaac 14180  
*Euphorbia marginata* Pursh, 1998 B.L. Isaac and J.A. Isaac 11758  
*Euphorbia platyphyllos* L., 1900 J.A. Shafer s.n. Europe

**Fabaceae**

- Amorpha fruticosa* L., 1998 J.A. Bower s.n.  
*Amphicarpaea bracteata* (L.) Fern. var. *comosa* (L.) Fern., 1991 W.A. Zanol 904  
*Apios americana* Medik., 1990 W.A. Zanol 195 [*Apios americana* Medik. var. *turrigera* Fern.]  
*Astragalus canadensis* L. var. *canadensis*, 1945 W.E. Buker s.n.  
 G5:S2  
*Baptisia australis* (L.) R. Br. ex Ait. f. var. *australis*, 1946 R. Vinski s.n. G5:S3  
*Baptisia tinctoria* (L.) R. Br. ex Ait. f., 1934 J. Churchill s.n.  
*Ceratonia siliqua* L., 1994 S.A. Thompson 11720 Exotic  
*Cercis canadensis* L. var. *canadensis*, 1997 S.A. Thompson and B.L. Isaac 14145  
*Chamaecrista fasciculata* (Michx.) Greene var. *fasciculata*, 1950 C.J. Poth s.n.

- Chamaecrista nictitans* (L.) Moench ssp. *nictitans* var. *nictitans*, 1993 W.A. Zanol 2067  
*Codariocalyx gyroides* (Roxb. ex Link) Hassk., 1902 J.A. Shafer s.n. [*Desmodium ciliare* (Muhl. ex Willd.) DC.]  
*Colutea arborescens* L., 2002 B.L. Isaac and J.A. Isaac 14538 Mediterranean  
*Desmodium canadense* (L.) DC., 1990 W.A. Zanol 314  
*Desmodium canescens* (L.) DC., 1963 N.R. Farnsworth WP-468  
*Desmodium cuspidatum* (Muhl. Ex Willd.) DC. ex Loud. var. *cuspidatum*, 1998 K. McGowan and M. Scanlon 249  
*Desmodium glabellum* (Michx.) DC., 1909 O.E. Jennings s.n. G5:SU  
*Desmodium glutinosum* (Muhl. ex Willd.) Wood, 1948 W.E. Buker s.n.  
*Desmodium humifusum* (Muhl. Ex Bigelow) Beck, 1899 J.A. Shafer s.n.  
*Desmodium nudiflorum* (L.) DC., 1921 O.E. Jennings s.n.  
*Desmodium paniculatum* (L.) DC., 1990 W.A. Zanol 390  
*Desmodium perplexum* Schub., 1998 K. McGowan and M. Scanlon 366 [*Desmodium dillenii* Darl.]  
*Desmodium rotundifolium* DC., 1953 W.E. Buker s.n.  
*Gleditsia triacanthos* L., 1998 B.L. Isaac and J.A. Isaac 11641  
*Lespedeza capitata* Michx., 1947 E. Mason s.n. [*Lespedeza capitata* Michx. var. *vulgaris* Torr. & A. Gray]  
*Lathyrus latifolius* L., 2001 S.N. Costabile 7 Europe  
*Lathyrus tuberosus* L., 1917 H.J. Osborne s.n. Europe and West Asia  
*Lespedeza frutescens* (L.) Hornem., 1968 Segalman and H. Fong WP-1430 [*Lespedeza intermedia* (S. Wats.) Britt.]  
*Lespedeza hirta* (L.) Hornem. ssp. *hirta*, 1932 C.M. Hepner s.n.  
*Lespedeza procumbens* Michx., 1991 W.A. Zanol 883  
*Lespedeza repens* (L.) W. Bart, 1955 W.E. Buker s.n.  
*Lespedeza violacea* (L.) Pers., 1949 W.E. Buker s.n.  
*Lespedeza virginica* (L.) Britt., 1955 W.E. Buker s.n.  
*Lotus corniculatus* L., 1990 W.A. Zanol 127 Europe  
*Medicago lupulina* L., 1997 S.A. Thompson and B.L. Isaac and M. Sally 13467 Eurasia  
*Medicago sativa* L. ssp. *sativa*, 1994 W.A. Zanol 2869 Eurasia  
*Melilotus officinalis* (L.) Lam., 1997 S.A. Thompson and B.L. Isaac and M. Sally 13470 Eurasia [*Melilotus albus* Medik.]  
*Phaseolus coccineus* L., 1994 S.A. Thompson 11722 Tropical America  
*Pisum sativum* L., 1918 O.E. Jennings s.n. Eurasia  
*Pueraria montana* (Lour.) Merr. var. *lobata* (Willd.) Maesen & S. Almeida, 2001 J.A. Isaac 13625 Eastern Asia [*Pueraria lobata* (Willd.) Ohwi]  
*Robinia hispida* L. var. *hispida*, 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14313  
*Robinia pseudoacacia* L., 2002 B.L. Isaac and J.A. Isaac 14378  
*Securigera varia* (L.) Lassen, 2001 S.N. Costabile 5 Southern Europe [*Coronilla varia* L.]  
*Senna hebecarpa* (Fern.) Irwin & Barneby, 1998 B.L. Isaac and J.A. Isaac 11741  
*Senna marilandica* (L.) Link, 1916 F.R. Alker s.n. G5:S1  
*Strophostyles helvola* (L.) Ell., 1953 C.J. Poth s.n.  
*Tephrosia virginiana* (L.) Pers., 1912 J. Bright s.n.

- Trifolium arvense* L., 1901 J.E. Winner s.n. Eurasia  
*Trifolium aureum* Pollich, 1994 F.H. Utech and T.D. Jacobsen and R.W. Kiger 94-2279 Eurasia  
*Trifolium campestre* Schreb., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13584 Europe  
*Trifolium dubium* Sibthorp, 1962 C.J. Poth s.n. Europe  
*Trifolium hybridum* L., 2001 S.N. Costabile 3 Eurasia  
*Trifolium incarnatum* L., 1949 L.K. Henry s.n. Europe  
*Trifolium pratense* L., 2003 C. Tracey 2003-0014 Europe  
*Trifolium reflexum* L., 1886 J.A. Shafer s.n. G3G4:5X  
*Trifolium repens* L., 1998 K. McGowan and M. Scanlon 168 Europe  
*Vicia americana* Muhl. ex Willd. ssp. *americana*, 1897 A. Koenig s.n.  
*Vicia caroliniana* Walt., 1946 W.E. Buker s.n.  
*Vicia sativa* L. ssp. *sativa*, 1923 J. Bright s.n. Europe  
*Vicia villosa* Roth ssp. *villosa*, 1944 L.K. Henry s.n. Europe  
*Vigna angularis* (Willd.) Ohwi & Ohashi, 1994 S.A. Thompson 11723

### Fagaceae

- Castanea dentata* (Marsh.) Borkh., 1977 H. Shockey s.n.  
*Castanea mollissima* Blume, 1991 W.A. Zanol 496 Asia  
*Castanea pumila* (L.) P. Mill var. *pumila*, 1920 C.W. Parker s.n.  
*Fagus grandifolia* Ehrh., 1969 F.B. Schell s.n.  
*Quercus alba* L., 1998 S.A. Thompson and B.L. Isaac 14978  
*Quercus bicolor* Willd., 2002 B.L. Isaac and J.A. Isaac 14349  
*Quercus coccinea* Muenchh., 1998 B.L. Isaac and J.A. Isaac 11671  
*Quercus ilicifolia* Wangenh., 1932 C.M. Hepner s.n.  
*Quercus imbricaria* Michx., 1998 S.A. Thompson and B.L. Isaac 14965  
*Quercus macrocarpa* Michx. var. *macrocarpa*, 2002 B.L. Isaac and J.A. Isaac 14362  
*Quercus muehlenbergii* Engelm., 1941 O.E. Jennings s.n.  
*Quercus palustris* Muenchh., 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15142  
*Quercus prinoides* Willd., 1957 J. Grom s.n.  
*Quercus prinus* L., 1964 P.B. Monk s.n.  
*Quercus rubra* L., 1998 S.A. Thompson and B.L. Isaac 14979  
*Quercus velutina* Lam., 1998 B.L. Isaac and J.A. Isaac 11643  
*Quercus x leana* Nutt. (pro sp.), 1934 E.H. Graham s.n.  
*Quercus x runcinata* (A. DC.) Engelm., 1937 H.H. Chisman s.n.

### Fumariaceae

- Adlumia fungosa* (Ait.) Greene ex B.S.P., 1945 W.E. Buker s.n.  
*Capnoides sempervirens* (L.) Borkh., 1900 J.A. Shafer s.n. [*Corydalis sempervirens* (L.) Pers.]  
*Corydalis flavula* (Raf.) DC., 1998 K. McGowan and M. Scanlon 12  
*Dicentra canadensis* (Goldie) Walp., 1937 C.M. Boardman s.n.  
*Dicentra cucullaria* (L.) Bernh., 1999 B.L. Isaac and T. Herman 11774  
*Fumaria officinalis* L. ssp. *officinalis*, 1996 A.W. Cusick 33095 Eurasia

### Gentianaceae

- Bartonia virginica* L. (B.S.P.), 1899 J.A. Shafer s.n.  
*Gentiana andrewsii* Griseb. var. *andrewsii*, 1940 H.H. Wolfe s.n.

- Gentiana clausa* Raf., 1932 O.E. Jennings s.n.  
*Gentianopsis crinita* (Froel.) Ma, 1886 J.D. Shafer s.n.  
*Obolaria virginica* L., 1891 B.H. Patterson s.n.  
*Sabatia angularis* (L.) Pursh, 1945 W.E. Buker s.n.

### Geraniaceae

- Erodium cicutarium* (L.) L'Her. ex Ait., 1992 S.A. Thompson 10042 Europe  
*Geranium carolinianum* L. var. *carolinianum*, 1998 S.A. Thompson and M. Burroughs 14408  
*Geranium maculatum* L., 1998 K. McGowan and M. Scanlon 125  
*Geranium pusillum* L., 1992 A.W. Cusick 30374 Europe  
*Geranium robertianum* L. ssp. *robertianum*, 1992 W.A. Zanol 1157  
*Geranium sanguineum* L., 2002 B.L. Isaac and J.A. Isaac 14334 Eurasia  
*Geranium thunbergii* Sieb. & Zucc. ex Lindl. & Paxton, 1963 W.E. Buker s.n. Eastern Asia

### Grossulariaceae

- Ribes americanum* P.Mill., 1998 S.A. Thompson and B.L. Isaac 14955  
*Ribes cynosbati* L., 1945 L.K. Henry s.n.  
*Ribes rotundifolium* Michx., 1942 R.L. Fricke s.n.  
*Ribes rubrum* L., 1928 J. Bright s.n. Eurasia [*Ribes sativum* Syme]

### Haloragaceae

- Myriophyllum sibiricum* Komarov, 2002 M.L. Young and B.R. Swiech 1 G5:S1

### Hamamelidaceae

- Hamamelis virginiana* L., 1998 K. McGowan and M. Scanlon 10  
*Liquidambar styraciflua* L., 1935 L.F. Allabach s.n.

### Hippocastanaceae

- Aesculus flava* Ait., 1960 E.J. Mason s.n.  
*Aesculus glabra* Willd. var. *glabra*, 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13568  
*Aesculus hippocastanum* L., 1991 G.H. Pollack 48 Eurasia

### Hydrangeaceae

- Hydrangea arborescens* L., 2002 B.L. Isaac and J.A. Isaac 14382  
*Philadelphus coronarius* L., 1997 S.A. Thompson and B.L. Isaac 14257 Eurasia

### Hydrocharitaceae

- Elodea canadensis* Michx., 1991 B.L. Isaac and J.A. Isaac and E. Allen 3509  
*Elodea nuttallii* (Planch.) St. John, 1933 W.R. Van Dersal s.n.  
*Vallisneria americana* Michx., 1899 J.A. Shafer s.n.

### Hydrophyllaceae

- Hydrophyllum appendiculatum* Michx., 1997 B.L. Isaac and J.A. Isaac 9618  
*Hydrophyllum canadense* L., 1992 W.A. Zanol 1237  
*Hydrophyllum virginianum* L. var. *virginianum*, 2002 B.L. Isaac and J.A. Isaac 14365  
*Phacelia purshii* Buckl., 1937 L.K. Henry s.n.

**Iridaceae**

- Iris cristata* Ait., 1923 J. Bright s.n. G5:S1  
*Iris pseudacorus* L., 1991 W.A. Zanol 579 Europe  
*Iris versicolor* L., 1992 W.A. Zanol 1152  
*Sisyrinchium albidum* Raf., 1918 W.H. Emig s.n. G5?:SH  
*Sisyrinchium angustifolium* P. Mill., 1997 S.A. Thompson and B.L. Isaac 13847  
*Sisyrinchium atlanticum* Bickn., 1979 D.E. Boufford and E.W. Wood and N. Foust 21192 G5:S1  
*Sisyrinchium mucronatum* Michx., 1946 W.E. Buker s.n.

**Juglandaceae**

- Carya alba* (L.) Nutt ex Ell., 1991 W.A. Zanol 856 [*Carya tomentosa* (Lam. Ex Poir.) Nutt]  
*Carya cordiformis* (Wangenh.) K. Koch, 1998 S.A. Thompson and B.L. Isaac 14972  
*Carya glabra* (P. Mill) Sweet, 1998 S.A. Thompson and B.L. Isaac 14971  
*Carya ovata* (P. Mill) K. Koch, 1947 E. Mason s.n.  
*Juglans cinerea* L., 1944 L.K. Henry s.n.  
*Juglans nigra* L., 2002 M.L. Young and B.R. Swiech 4

**Juncaceae**

- Juncus acuminatus* Michx., 1921 O.E. Jennings s.n.  
*Juncus bufonius* L., 1975 J.M. Eggers 18  
*Juncus canadensis* J. Gay ex Laharpe, 1993 L.L. Smith s.n.  
*Juncus dichotomus* Ell., 1908 O.E. Jennings s.n. G5:S1  
*Juncus dudleyi* Wieg., 2003 C.M. Bowers s.n.  
*Juncus effusus* L. ssp. *solutus* (Fern. & Wieg.) Hamet-Ahti, 2004 C. Tracey and S. Miller 2004-0006  
*Juncus gerardii* Loisel var. *gerardii*, 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14312  
*Juncus marginatus* Rostk., 1907 O.E. Jennings and G.K. Jennings s.n.  
*Juncus secundus* Beauv. ex Poir, 1899 J.A. Shafer s.n.  
*Juncus subcaudatus* (Engelm.) Coville & Blake var. *subcaudatus*, 1993 L.L. Smith s.n.  
*Juncus torreyi* Coville, 1887 B.H. Patterson s.n. G5:S2  
*Juncus tenuis* Willd., 2004 C. Tracey 2004-0004  
*Luzula echinata* (Small) F.J. Herm., 1920 O.E. Jennings and G.K. Jennings s.n.  
*Luzula multiflora* (Ehrh.) Lej., ssp. *multiflora* var. *multiflora*, 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14359

**Lamiaceae**

- Agastache nepetoides* (L.) Kuntze, 1994 W.A. Zanol 3764  
*Agastache scrophulariifolia* (Willd.) Kuntze, 1946 W.E. Buker s.n. [*Agastache scrophulariifolia* (Willd.) Kuntze var. *mollis* (Fern.) Heller]  
*Ajuga reptans* L., 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14299 Eurasia  
*Blephilia ciliata* (L.) Benth., 1945 W.E. Buker s.n.  
*Blephilia hirsuta* (Pursh) Benth. var. *hirsuta*, 1985 M. Macdonald and K. Stewart LSCW157  
*Stachys palustris* L., 1973 W.E. Buker s.n. Europe  
*Clinopodium vulgare* L., 1998 K. McGowan and M. Scanlon 318 [*Satureja vulgaris* (L.) Fritsch]  
*Collinsonia canadensis* L., 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15200

- Cunila origanoides* (L.) Britton, 1898 J.A. Shafer s.n.  
*Glechoma hederacea* L., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13564 Eurasia  
*Hedeoma pulegioides* (L.) Pers., 1998 S.A. Thompson and B.L. Isaac 14931  
*Lamium amplexicaule* L., 1964 N.R. Farnsworth WP-708 Eurasia  
*Lamium maculatum* L., 1951 W. Smith s.n. Eurasia  
*Lamium purpureum* L. var. *purpureum*, 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13600 Eurasia  
*Leonurus cardiaca* L. ssp. *cardiaca*, 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13565 Asia  
*Lycopus americanus* Muhl. ex W. Bart., 1996 L.L. Smith and R. Hawk 73  
*Lycopus uniflorus* Michx. var. *uniflorus*, 1996 S. Grund 1678  
*Lycopus virginicus* L., 1998 B.L. Isaac and J.A. Isaac 11661  
*Marrubium vulgare* L., 1921 O.E. Jennings s.n. Eurasia  
*Meehania cordata* (Nutt.) Britt., 1948 E. Mason s.n. G5:S1  
*Melissa officinalis* L., 1920 J. Bright s.n. Asia  
*Mentha aquatica* L., 1913 J. Bright s.n. Eurasia  
*Mentha arvensis* L., 1990 W.A. Zanol 190 [*Mentha gentilis* L.]  
*Mentha spicata* L., 1968 N.R. Farnsworth WP-1585 Europe  
*Mentha suaveolens* Ehrh., 1917 B.H. Patterson s.n. Eurasia [*Mentha rotundifolia* auct. non (L.) Huds.]  
*Mentha x piperita* L. (pro sp.), 1994 W.A. Zanol 3496 Eurasia  
*Mentha x rotundifolia* (L.) Huds. (pro sp.), 1994 W.A. Zanol 3458 Eurasia  
*Monarda clinopodia* L., 1965 N.R. Farnsworth WP-1130  
*Monarda fistulosa* L. ssp. *fistulosa* var. *fistulosa*, 1990 W.A. Zanol 221  
*Monarda didyma* L., 1998 K. McGowan and M. Scanlon 300  
*Monarda fistulosa* L. ssp. *fistulosa* var. *mollis* (L.) Benth., 1925 L.K. Henry s.n.  
*Monarda media* Willd., 1967 N.R. Farnsworth WP-1469  
*Monarda punctata* L. ssp. *punctata* var. *villicaulis* (Pennell) Palmer & Steyermark, 1907 J.A. Shafer s.n. G5:SH  
*Nepeta cataria* L., 1994 W.A. Zanol 3745 Eurasia  
*Physostegia virginiana* (L.) Benth. ssp. *virginiana*, 1923 J. Bright s.n.  
*Prunella vulgaris* L. ssp. *lanceolata* (W. Bart.) Hulten, 1967 N.R. Farnsworth WP-1501  
*Prunella vulgaris* L. ssp. *vulgaris*, 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13561 Europe  
*Pycnanthemum incanum* (L.) Michx. var. *incanum*, 1969 W.E. Buker s.n.  
*Pycnanthemum tenuifolium* Schrad., 1945 W.E. Buker s.n.  
*Pycnanthemum verticillatum* (Michx.) Pers. var. *verticillatum*, 1945 W.E. Buker s.n.  
*Pycnanthemum virginianum* (L.) T. Dur. & B.D. Jackson ex B.L. Robins. & Fern., 1921 O.E. Jennings s.n.  
*Salvia reflexa* Hornem., 1918 E.M. Gress and A.R. Hillard s.n.  
*Scutellaria elliptica* Muhl. ex Spreng. var. *hirsuta* (Short & Peter) Fern., 1901 J.A. Shafer  
*Scutellaria galericulata* L., 1953 L.K. Henry and D.E. Long s.n.  
*Scutellaria incana* Biehler var. *incana*, 1945 L.K. Henry s.n.  
*Scutellaria integrifolia* L., 1932 C.M. Hepner s.n.  
*Scutellaria lateriflora* L. var. *lateriflora*, 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13596

- Scutellaria nervosa* Pursh, 1968 W.E. Buker s.n.
- Scutellaria parvula* Michx. var. *missouriensis* (Torr.) Goodman & Lawson, 1888 J.A. Shafer 1033 [*Scutellaria leonardii* Epling]
- Scutellaria saxatilis* Riddell, 1994 L.L. Smith and C.J. Boget 31 G3:S1
- Stachys tenuifolia* Willd., 1973 G. Wallace s.n.
- Teucrium canadense* L. var. *canadense*, 1998 S.A. Thompson and B.L. Isaac 14938
- Trichostema brachiatum* L., 1901 J.A. Shafer 100 [*Isanthus brachiatus* (L.) B.S.P.]
- Trichostema dichotomum* L., 1996 L.L. Smith and R. Hawk 74
- Lardizabalaceae**
- Akebia quinata* (Houtt.) Dcne., 2002 B.L. Isaac and J.A. Isaac 14369 Asia
- Lauraceae**
- Lindera benzoin* (L.) Blume, 1998 K. McGowan and B.L. Isaac and M. Scanlon 39
- Sassafras albidum* (Nutt.) Nees, 1986 S.A. Thompson 3334 [*Sassafras albidum* (Nutt.) Nees var. *molle* (Raf.) Fern.]
- Lemnaceae**
- Lemna minor* L., 1953 L.K. Henry and D.E. Long s.n.
- Lemna turionifera* Landolt, 1947 W.E. Buker s.n. G5:SU
- Spirodela polyrrhiza* (L.) Schleid., 1925 O.E. Jennings s.n.
- Wolffia columbiana* Karst., 1931 O.E. Jennings s.n.
- Liliaceae**
- Allium canadense* L. var. *canadense*, 1992 W.A. Zanol 1226
- Allium cepa* L., 1918 O.E. Jennings s.n. Western Asia
- Allium cernuum* Roth var. *cernuum*, 1994 F.H. Utech and T.D. Jacobsen and R.W. Kiger 94-2292
- Allium sativum* L., 1998 K. McGowan and M. Scanlon 206 Central Asia
- Allium schoenoprasum* L., 1883 J.A. Shafer s.n.
- Allium tricoccum* Ait., 1946 W.E. Buker s.n.
- Allium vineale* L. ssp. *vineale*, 1991 W.A. Zanol 816 Europe
- Asparagus officinalis* L., 1991 W.A. Zanol 585 Europe
- Camassia scilloides* (Raf.) Cory, 2006 L. Speedy and T. Schumann LS-06-257 G4G5:S1
- Chamaelirium luteum* (L.) A. Gray, 1980 W.E. Buker s.n.
- Clintonia umbellulata* (Michx.) Morong, 1982 C. Metelmann s.n.
- Erythronium albidum* Nutt., 1997 F.H. Utech 97-002 G5:S3
- Erythronium americanum* Ker-Gawl. ssp. *americanum*, 1991 W.A. Zanol 433
- Galanthus elwesii* Hook. F., 1984 S.A. Thompson 1326 Turkey
- Hemerocallis fulva* (L.) L., 2001 S.N. Costabile 9 Asia
- Hemerocallis lilioasphodelus* L., 1990 W.A. Zanol 121 Europe
- Hosta ventricosa* (Salisb.) Stearn, 1977 W.E. Buker s.n. Asia
- Hyacinthoides non-scripta* (L.) Chouard ex Rothm., 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14315 Europe [*Scilla nonscripta* (L.) Hoffm. & Link]
- Hypoxis hirsuta* (L.) Coville, 1924 H.W. Graham and W. Schiller s.n.
- Lilium canadense* L. ssp. *editorum* (Fern.) Wherry, 1977 W.E. Buker s.n.
- Lilium superbum* L., 1994 W.A. Zanol 3071
- Maianthemum canadense* Desf., 1932 C.M. Boardman s.n.
- Maianthemum racemosum* (L.) Link ssp. *racemosum*, 1998 K. McGowan and M. Scanlon 150 [*Smilacina racemosa* (L.) Desf.]
- Medeola virginiana* L., 1991 W.A. Zanol 576
- Muscari botryoides* (L.) P. Mill., 1991 W.A. Zanol 430 Europe
- Narcissus pseudonarcissus* L., 1991 W.A. Zanol 420 Europe
- Ornithogalum nutans* L., 1945 H. Roslund s.n. Europe
- Ornithogalum umbellatum* L., 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14305 Europe
- Polygonatum biflorum* (Walt.) Ell. var. *commutatum* (J.A. & J.H. Schultes) Morong, 1991 W.A. Zanol 772
- Polygonatum pubescens* (Willd.) Pursh, 1998 K. McGowan and M. Scanlon 93
- Scilla siberica* Haw., 1984 M. Macdonald and K. Stewart LSCW 20 Eurasia
- Stenanthium gramineum* (Ker-Gawl.) Morong, 1945 W.E. Buker s.n. G4G5:S1S2
- Trillium cernuum* L., 1925 O.E. Jennings and G.K. Jennings s.n. G5:S3
- Trillium erectum* L., 1991 W.A. Zanol 442
- Trillium flexipes* Raf., 1972 R. Friday s.n. G5:S2
- Trillium grandiflorum* (Michx.) Salisb., 1991 W.A. Zanol 473
- Trillium nivale* Riddell, 1997 S.P. Grund and R. Schultz 1786 G4:S3
- Trillium sessile* L., 1997 F.H. Utech 97-003
- Trillium undulatum* Willd., 1965 N.R. Farnsworth WP-1192
- Uvularia grandiflora* Sm., 1945 L.K. Henry s.n.
- Uvularia perfoliata* L., 1984 B. Behrer and M. Macdonald LSCW 33
- Uvularia sessilifolia* L., 1991 W.A. Zanol 488
- Veratrum virginicum* (L.) Ait. f., 1900 J.A. Shafer s.n. G5:SU [*Melanthium virginicum* L.]
- Veratrum viride* Aiton var. *viride*, 1991 W.A. Zanol 696
- Limnanthaceae**
- Floerkea proserpinacoides* Willd., 1998 K. McGowan and B.L. Isaac and M. Scanlon 72
- Linaceae**
- Linum striatum* Walt., 1994 F.H. Utech and T.D. Jacobsen and R.W. Kiger 94-2303
- Linum usitatissimum* L., 1993 F.H. Utech 93-870 Europe
- Linum virginianum* L., 1994 F.H. Utech and T.D. Jacobsen and R.W. Kiger
- Lythraceae**
- Ammannia coccinea* Rottb., 1993 W.A. Zanol 2069 G5:S2 [*Ammannia coccinea* Rottb. ssp. *purpurea* (Lam.) Koehne]
- Cuphea viscosissima* Jacq., 1950 D.H. Krouse s.n.
- Lythrum alatum* Pursh var. *alatum*, 1921 O.E. Jennings s.n. G5:S1
- Lythrum salicaria* L., 2001 S.N. Costabile 22 Europe
- Magnoliaceae**
- Liriodendron tulipifera* L., 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14339
- Magnolia acuminata* (L.) L., 1997 F.H. Utech 97-160
- Magnolia tripetala* (L.) L., 1997 B.L. Isaac and J.A. Isaac 9607 G5:S2

*Magnolia virginiana* L., 2005 L. Speedy and M. Bowers  
LSB1285-1 G5:S2

### Malvaceae

- Abutilon theophrasti* Medik., 1990 W.A. Zanol 337 Asia  
*Alcea rosea* L., 1949 D. Benzenhoefer s.n. China  
*Hibiscus moscheutos* L. var. *moscheutos*, 1969 W.E. Buker s.n.  
*Hibiscus syriacus* L., 1998 S.A. Thompson and B.L. Isaac and  
J.A. Isaac 15139 Asia  
*Hibiscus trionum* L., 1991 W.A. Zanol 893 Europe  
*Malva moschata* L., 1994 W.A. Zanol 3075 Europe  
*Malva neglecta* Wallr., 1966 R.N. Blomster WP-818 Eurasia and  
North Africa  
*Malva pusilla* Sm., 1990 W.A. Zanol 120 Europe [*Malva ro-*  
*tundifolia* L.]  
*Malva sylvestris* L., 1903 J.A. Shafer s.n. Eurasia  
*Sida spinosa* L., 1942 J. Wurdack s.n.

### Menispermaceae

*Menispermum canadense* L., 1997 S.A. Thompson 13442

### Molluginaceae

*Mollugo verticillata* L., 1997 S.A. Thompson and B.L. Isaac  
13861

### Monotropaceae

- Monotropa hypopithys* L., 1947 L.K. Henry s.n.  
*Monotropa uniflora* L., 1990 W.A. Zanol 215

### Moraceae

- Fatoua villosa* (Thunb.) Nakai, 1989 S.A. Thompson 6354  
Eastern Asia  
*Ficus carica* L., 1998 B.L. Isaac and J.A. Isaac 11739 Mediter-  
ranean  
*Maclura pomifera* (Raf.) Schneid., 1998 S.A. Thompson and B.L.  
Isaac and J.A. Isaac 15140  
*Morus alba* L., 2001 B.L. Isaac and J. Isaac and C. Chuey and  
S. Grund 13613 Asia  
*Morus rubra* L. var. *rubra*, 1966 P. Monk s.n.

### Myricaceae

- Comptonia peregrina* (L.) Coult., 1929 E.H. Graham s.n.  
*Morella pennsylvanica* (Mirbel) Kartesz, 1958 M. Reynolds  
[*Myrica pennsylvanica* Mirbel]

### Nyctaginaceae

- Mirabilis jalapa* L., 1953 W.E. Buker s.n. Tropical America  
*Mirabilis nyctaginea* Michx. MacM., 1998 S.A. Thompson  
15170

### Nymphaeaceae

*Nymphaea odorata* L. ssp. *tuberosa* (Paine) Wiersma & Hellquist,  
1986 D.E.K. s.n.

### Oleaceae

- Chionanthus virginicus* L., 2002 B.L. Isaac and J.A. Isaac and S.P.  
Grund and McPherson 14350 G5:S3  
*Fraxinus americana* L., 2001 B.L. Isaac and J. Isaac and C. Chuey  
and S. Grund 13551  
*Fraxinus nigra* Marsh., 1944 O.E. Jennings s.n.  
*Fraxinus pennsylvanica* Marsh., 2001 B.L. Isaac and J. Isaac and  
C. Chuey and S. Grund 13611

*Forsythia suspensa* (Thunb.) Vahl, 1998 B.L. Isaac and M. Rosen-  
berger 10212 China

*Ligustrum vulgare* L., 2004 C. Tracey and P.J. Gruszka and M.B.  
Steisslinger 2004-0029 Europe

*Syringa vulgaris* L., 1965 N.R. Farnsworth WP-1019 Europe

### Onagraceae

- Chamerion angustifolium* (L.) Holub ssp. *circumvagum* (Mos-  
quin) Kartesz, 1932 C.M. Hepner s.n.  
*Circaea alpina* L. ssp. *alpina*, 1923 O.E. Jennings s.n.  
*Circaea canadensis* sensu Fern., 2001 S.N. Costabile 10 [*Circaea*  
*lutetiana* L. ssp. *canadensis* (L.) Aschers. & Magnus]  
*Epilobium ciliatum* Raf. ssp. *ciliatum*, 1998 A.W. Cusick 34525  
*Epilobium coloratum* Biehler, 2000 R.B. Coxe s.n.  
*Gaura biennis* L., 1998 S.A. Thompson and B.L. Isaac and J.A.  
Isaac 15149  
*Ludwigia alternifolia* L., 1991 W.A. Zanol 905  
*Ludwigia palustris* (L.) Ell., 1940 O.E. Jennings s.n.  
*Ludwigia peploides* (Kunth) Raven ssp. *glabrescens* (Kuntze)  
Raven, 1991 B.L. Isaac and J.A. Isaac and E. Allen 3510  
*Oenothera biennis* L., 2002 H. George s.n.  
*Oenothera fruticosa* L. ssp. *fruticosa*, 1902 J.A. Shafer s.n.  
*Oenothera fruticosa* L. ssp. *glauca* (Michx.) Straley, 1991 W.A.  
Zanol 786  
*Oenothera laciniata* Hill, 1895 B.H. Patterson s.n.  
*Oenothera nutans* Atkinson & Bartlett, 1922 O.E. Jennings s.n.  
*Oenothera parviflora* L., 1902 O. Hatry s.n.  
*Oenothera perennis* L., 1997 S.A. Thompson and B.L. Isaac  
13840  
*Oenothera pilosella* Raf. ssp. *pilosella*, 1918 O.E. Jennings s.n.  
*Oenothera speciosa* Nutt., 1918 Smith s.n.
- ### Orchidaceae
- Aplectrum hyemale* (Muhl. ex Willd.) Torr., 1887 J.A. Shafer  
s.n. G5:S3  
*Corallorhiza maculata* (Raf.) Raf. var. *maculata*, 1978 W.E.  
Buker s.n.  
*Corallorhiza maculata* Raf. var. *occidentalis* (Lindl.) Ames, 1995  
J.S. Shriver and A. Shriver and C. Smith 392  
*Corallorhiza odontorhiza* (Willd.) Poir. var. *odontorhiza*, 1890  
J.A. Shafer s.n.  
*Cypripedium acaule* Ait., 1993 J.S. Shriver 33  
*Cypripedium parviflorum* Salisb. var. *pubescens* (Willd.) Knight,  
1904 A.D. Frost s.n. [*Cypripedium pubescens* Willd.]  
*Corallorhiza wisteriana* Conrad, 1900 U.G. Sanger s.n. G5:S1  
*Epipactis helleborine* (L.) Crantz, 1998 B.L. Isaac and J.A. Isaac  
11726 Europe  
*Galearis spectabilis* (L.) Raf., 1884 J.A. Schaeffer s.n.  
*Goodyera pubescens* (Willd.) R. Br. ex Ait.f., 1997 J.S. Shriver and  
A. Shriver and C. Smith 811  
*Isotria verticillata* Raf., 1948 C. Shoemaker s.n.  
*Liparis liliifolia* (L.) L.C. Rich. ex Ker-Gawl, 1993 J.S. Shriver 39  
*Liparis loeselii* (L.) L.C. Rich., 1995 J.S. Shriver 391  
*Platanthera flava* (L.) Lindl. var. *herbiola* (R. Br. Ex Ait. F.) Luer,  
1993 J.S. Shriver 56  
*Platanthera lacera* (Michx.) G. Don, 1994 J.S. Shriver 252  
*Platanthera orbiculata* (Pursh) Lindl., 1887 J.A. Shafer 978  
*Platanthera peramoena* (A. Gray) A. Gray, 1898 J.A. Shafer  
s.n. G5:S2

- Platanthera psycodes* (L.) Lindl., 1912 J. Bright s.n.  
*Spiranthes cernua* (L.) L.C. Rich., 1905 O.E. Jennings s.n.  
*Spiranthes lacera* (Raf.) Raf. var. *gracilis* (Bigelow) Luer, 1936  
 O.E. Jennings s.n.  
*Spiranthes lucida* (H.H. Eaton) Ames, 1997 J.S. Shriver 878  
 G5:S3  
*Spiranthes ochroleuca* (Rydb.) Rydb., 1939 O.E. Jennings s.n.  
 [*Spiranthes cernua* (L.) L.C. Rich. var. *ochroleuca* (Rydb.)  
 Ames]

#### Orobanchaceae

- Conopholis americana* (L.) Wallr. f., 1997 F.H. Utech 97-153  
*Epifagus virginiana* (L.) W. Bart, 1998 S.A. Thompson and B.  
 Isaac and J. Isaac and F.H. Utech 14347  
*Orobanche uniflora* L., 1971 W.E. Buker s.n.

#### Oxalidaceae

- Oxalis corniculata* L., 1994 A.W. Cusick 31796  
*Oxalis dillenii* Jacq., 1998 S.A. Thompson and M. Burroughs  
 14399  
*Oxalis grandis* Small, 1992 W.A. Zanol 1103  
*Oxalis montana* Raf., 1992 W.A. Zanol 984 [*Oxalis acetosella*  
 auct. non L.]  
*Oxalis stricta* L., 2001 B.L. Isaac and J. Isaac and C. Chuey and  
 S. Grund 13569  
*Oxalis violacea* L., 1991 W.A. Zanol 542

#### Papaveraceae

- Chelidonium majus* L. var. *majus*, 1998 S.A. Thompson and M.  
 Burroughs 14409 Eurasia  
*Macleaya cordata* (Willd.) R. Br., 2002 B.L. Isaac and H. George  
 14540 Eastern Asia  
*Papaver rhoeas* L., 2001 B.L. Isaac and J. Isaac and C. Chuey  
 and S. Grund 13603 Eurasia and North Africa  
*Sanguinaria canadensis* L., 2002 B.L. Isaac and J.A. Isaac  
 14381

#### Passifloraceae

- Passiflora lutea* L., 1998 B.L. Isaac and J.A. Isaac 11727 G5:S1

#### Pedaliaceae

- Proboscidea louisianica* (P. Mill.) Thellung ssp. *louisianica*, 1935  
 M.B. Knauz s.n.

#### Phytolaccaceae

- Phytolacca americana* L. var. *americana*, 1998 S.A. Thompson  
 and B.L. Isaac 14964

#### Plantaginaceae

- Plantago aristata* Michx., 1946 H.N. Mozingo s.n.  
*Plantago lanceolata* L., 1997 S.A. Thompson and B.L. Isaac  
 13860 Europe  
*Plantago major* L., 1998 S.A. Thompson and B.L. Isaac and  
 J.A. Isaac 15131  
*Plantago psyllium* L., 1934 W.R. Witz s.n. Mediterranean [*Plan-*  
*tago arenaria* Waldst. & Kit.]  
*Plantago rugelii* Dcne., 1994 F.H. Utech and T.D. Jacobsen and  
 R.W. Kiger 94-2301  
*Plantago virginica* L., 1977 W.E. Buker s.n.

#### Platanaceae

- Platanus occidentalis* L., 1997 S.A. Thompson and B.L. Isaac  
 14200  
*Platanus x hybrida* Brot., 1967 P. Monk s.n. Exotic [*Platanus*  
*acerifolia* (Ait.) Willd.]

#### Poaceae

- Agrostis capillaris* L., 1947 H. Roslund s.n. Europe [*Agrostis*  
*tenuis* Sibthorp]  
*Agrostis gigantea* Roth, 2003 C.M. Bowers s.n. Europe  
*Agrostis hyemalis* (Walt.) B.S.P., 1924 H.W. Graham and W.  
 Schuller s.n.  
*Agrostis perennans* (Walt.) Tuckerman, 1998 B.L. Isaac and J.A.  
 Isaac 11656 G4: SX [*Agrostis altissima* (Walt.) Tuckerman]  
*Agrostis scabra* Willd., 1998 K. McGowan and M. Scanlon 226  
*Alopecurus aequalis* Sobol. var. *aequalis*, 1919 J. Jones s.n.  
 G5:S3  
*Andropogon gerardii* Vitman, 1922 J. Bright s.n. [*Andropogon*  
*gerardii* Vitman var. *chrysocomus* (Nash) Fern.]  
*Andropogon virginicus* L. var. *virginicus*, 1998 B.L. Isaac and  
 J.A. Isaac 11655  
*Anthoxanthum hirtum* (Schrank) Y. Schouten & Veldkamp,  
 1899 J.A. Shafer s.n. G5:T5:S1 [*Hierochloa hirta* (Schrank)  
 Borbas ssp. *arctica* (J. Presl) G. Weim.]  
*Anthoxanthum odoratum* L., 1991 W.A. Zanol 695 Eurasia  
*Aristida dichotoma* Michx. var. *dichotoma*, 1936 O.E. Jennings  
 s.n.  
*Aristida oligantha* Michx., 1982 W.W. Thomas and W.E. Buker  
 2978  
*Arrhenatherum elatius* (L.) Beauv. ex J. & K. Presl var. *elatius*, 1998  
 S.A. Thompson and M. Burroughs 14388 Europe  
*Avena sativa* L., 1945 W.E. Buker s.n. Europe [*Avena fatua* L. var.  
*sativa* (L.) Hausskn.]  
*Bromus arvensis* L., 1992 W.A. Zanol 1164 Southern Europe  
 [*Bromus japonicus* Thunb. ex Murr.]  
*Bromus inermis* Leyss. ssp. *inermis* var. *inermis*, 1994 W.A. Zanol  
 2863 Europe  
*Bromus latiglumis* (Shear) A.S. Hitchc., 1963 W.E. Buker s.n.  
*Bromus pubescens* Muhl. ex Willd., 1994 F.H. Utech and T.D.  
 Jacobsen and R.W. Kiger 94-2277  
*Bromus racemosus* L., 1997 S.A. Thompson and B.L. Isaac and  
 M. Sally 13476 Europe [*Bromus commutatus* Schrad.]  
*Bromus secalinus* L., 1952 W.E. Buker s.n. Europe  
*Bromus sterilis* L., 2002 B.L. Isaac and J.A. Isaac 14332 Europe  
*Bromus tectorum* L., 1998 S.A. Thompson and M. Burroughs  
 14398 Europe  
*Calamagrostis canadensis* (Michx.) Beauv. var. *canadensis*,  
 1929 J. Bright 1932  
*Cenchrus longispinus* (Hack.) Fern., 1985 A.W. Cusick 25789  
*Chasmanthium latifolium* (Michx.) Yates, 1898 B.H. Patterson  
 s.n. G5:S1 [*Uniola latifolia* Michx.]  
*Cinna arundinacea* L., 1998 B.L. Isaac and J.A. Isaac 11665  
*Dactylis glomerata* L. ssp. *glomerata*, 2004 C. Tracey 2004-  
 0003 Europe  
*Danthonia compressa* Austin ex Peck, 2004 C. Tracey 2004-  
 0005  
*Danthonia spicata* (L.) Beauv. ex Roemer & J.A. Schultes, 2001  
 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13547

- Deschampsia caespitosa* (L.) Beauv. ssp. *caespitosa*, 1900 J.A. Shafer s.n. G5:S3
- Dichantherium acuminatum* (Sw.) Gould & C.A. Clark var. *acuminatum*, 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13544
- Dichantherium acuminatum* (Sw.) Gould & C.A. Clark var. *fasciculatum* (Torr.) Freckmann, 1991 W.A. Zanol 688 [*Panicum lanuginosum* Bosc ex Spreng., non Ell.]
- Dichantherium acuminatum* (Sw.) Gould & C.A. Clark var. *lindheimeri* (Nash) Gould & C.A. Clark, 1924 H.W. Graham s.n. [*Panicum lanuginosum* Bosc ex Spreng. var. *lindheimeri* (Nash) Fern.]
- Dichantherium boscii* (Poir.) Gould & C.A. Clark, 1992 W.A. Zanol 1218 [*Panicum boscii* Poir.]
- Dichantherium clandestinum* (L.) Gould, 1997 S.A. Thompson and B.L. Isaac 14160 [*Panicum clandestinum* L.]
- Dichantherium commutatum* (J.A. Schultes) Gould, 1921 O.E. Jennings s.n. [*Panicum commutatum* J.A. Schultes]
- Dichantherium depauperatum* (Muhl.) Gould, 1908 B.H. Patterson s.n. [*Panicum depauperatum* Muhl.]
- Dichantherium dichotomum* (L.) Gould var. *dichotomum*, 1952 W.E. Buker s.n. [*Panicum microcarpon* Muhl., non Muhl. ex Ell.]
- Dichantherium latifolium* (L.) Gould & C.A. Clark, 1994 F.H. Utech and T.D. Jacobsen and R.W. Kiger 94-2272 [*Panicum latifolium* L.]
- Dichantherium linearifolium* (Scribn. ex Nash) Gould, 1921 J. Bright s.n. [*Panicum linearifolium* Scribn. ex Nash var. *wernerii* (Scribn.) Fern.]
- Dichantherium sabulorum* (Lam.) Gould & C.A. Clark var. *thinium* (A.S. Hitchc. & Chase) Gould, 1884 J.A. Shafer s.n. [*Panicum columbianum* Scribn.]
- Digitaria ischaemum* (Schreb.) Schreb. ex Muhl., 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15116 Eurasia
- Digitaria sanguinalis* (L.) Scop., 1990 W.A. Zanol 182
- Echinochloa crus-galli* (L.) Beauv., 1998 S.A. Thompson 14924 Eurasia
- Echinochloa frumentacea* Link, 1946 W.E. Buker s.n. Eurasia [*Echinochloa crus-galli* (L.) Beauv. var. *frumentacea* (Link) W. Wight]
- Echinochloa muricata* (Beauv.) Fern. var. *muricata*, 1953 W.E. Buker s.n. Eurasia
- Eleusine indica* (L.) Gaertn., 1997 S.A. Thompson and B.L. Isaac 13876 Old World Tropics
- Elymus canadensis* L., 1969 W.E. Buker s.n.
- Elymus hystrix* L. var. *bigeloviana* (Fern.) Bowden, 1912 H.H. Smith s.n. [*Hystrix patula* Moench var. *bigeloviana* (Fern.) Deam]
- Elymus hystrix* L. var. *hystrix*, 1994 W.A. Zanol 3483
- Elymus repens* (L.) Gould, 1998 S.A. Thompson 14914 Eurasia [*Agropyron repens* (L.) Beauv. var. *subulatum* (Schreb.) Roemer & J.A. Schultes]
- Elymus riparius* Wieg., 1990 W.A. Zanol 304
- Elymus villosus* Muhl. ex Willd., 1994 F.H. Utech and T.D. Jacobsen and R.W. Kiger 94-2295
- Elymus virginicus* L. var. *virginicus*, 1997 S.A. Thompson and B.L. Isaac 13873
- Eragrostis capillaris* (L.) Nees, 1982 W.W. Thomas and W.E. Buker 2982
- Eragrostis cilianensis* (All.) Vign. ex Janchen, 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13602 Europe
- Eragrostis frankii* C.A. Mey. ex Steud., 1924 J. Bright s.n.
- Eragrostis hypnoides* (Lam.) B.S.P., 1991 W.A. Zanol 894
- Eragrostis minor* Host, 1997 S.A. Thompson and B.L. Isaac 14184 Europe
- Eragrostis pectinacea* (Michx.) Nees ex Steud. var. *pectinacea*, 1963 W. Margadant s.n.
- Eragrostis pilosa* (L.) Beauv. var. *pilosa*, 1929 J. Bright 1958
- Eragrostis spectabilis* (Pursh) Steud., 1970 W.E. Buker s.n.
- Festuca filiformis* Pourret, 1887 B.H. Patterson s.n. Exotic [*Festuca capillata* Lam.]
- Festuca ovina* L., 1956 M.G. Netting s.n. Europe
- Festuca paradoxa* Desv., 1887 B.H. Patterson s.n. G5:S1
- Festuca pratensis* Huds., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13545 Europe [*Schedonorus pratensis* (Huds.) Beauv.]
- Festuca rubra* L. ssp. *rubra*, 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13549
- Festuca subverticillata* (Pers.) Alexeev, 1979 D.E. Boufford and E.W. Wood 21099 [*Festuca obtusa* Biehler]
- Festuca trachyphylla* (Hack.) Krajina nom. Illeg., 1970 W.E. Buker s.n. Europe [*Festuca brevipila* Tracey]
- Glyceria canadensis* (Michx.) Trin., 1916 J. Bright s.n.
- Glyceria grandis* S. Wats. var. *grandis*, 1915 J. Bright s.n.
- Glyceria septentrionalis* A.S. Hitchc., 1934 J. Bright 9307
- Glyceria striata* (Lam.) A.S. Hitchc., 2004 C. Tracey and M. Takacs 2004-0016
- Holcus lanatus* L., 1998 K. McGowan and M. Scanlon 211 Europe
- Hordeum jubatum* L. ssp. *jubatum*, 1997 S.A. Thompson and B.L. Isaac and M. Sally 13464
- Hordeum vulgare* L., 1994 S.A. Thompson 11725 Eurasia
- Miscanthus sinensis* Anderss., 1969 W.E. Buker s.n. China
- Muhlenbergia frondosa* (Poir.) Fern., 1997 S.A. Thompson and B.L. Isaac 14161
- Muhlenbergia glomerata* (Willd.) Trin., 1990 W.A. Zanol 325
- Muhlenbergia mexicana* (L.) Trin., 1990 W.A. Zanol 398
- Muhlenbergia schreberi* J.F. Gmel., 1998 B.L. Isaac and J.A. Isaac 11663
- Muhlenbergia sobolifera* (Muhl. ex Willd.) Trin., 1912 B.H. Patterson s.n.
- Muhlenbergia sylvatica* Torr. ex A. Gray, 1909 O.E. Jennings s.n.
- Muhlenbergia tenuiflora* (Willd.) B.S.P., 1923 J. Bright s.n.
- Panicum capillare* L., 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15204
- Panicum dichotomiflorum* Michx. var. *dichotomiflorum*, 1990 W.A. Zanol 343
- Panicum gattingeri* Nash, 1902 O. Hatry s.n.
- Panicum miliaceum* L. ssp. *miliaceum*, 1998 A.W. Cusick 34526 Eurasia
- Panicum philadelphicum* Bernh. ex Trin., 1917 E.M. Gress s.n.
- Panicum virgatum* L. var. *virgatum*, 1996 L.L. Smith and R. Hawk 81

- Pennisetum glaucum* (L.) R. Br., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13550 Africa [*Setaria glauca* (L.) Beauv.]
- Phalaris arundinacea* L., 1992 W.A. Zanol 1161
- Phalaris canariensis* L., 1947 W.E. Buker s.n. Europe
- Phleum pratense* L., 1998 S.A. Thompson 14916 Europe
- Phragmites australis* (Cav.) Trin. ex Steud. ssp. *australis*, 1993 W.A. Zanol 2136
- Poa alsodes* A. Gray, 1998 K. McGowan and M. Scanlon 197
- Poa annua* L., 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15114 Eurasia
- Poa compressa* L., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13548 Europe
- Poa cuspidata* Nutt., 1991 W.A. Zanol 468
- Poa palustris* L., 1944 O.E. Jennings s.n.
- Poa pratensis* L. ssp. *pratensis*, 1998 K. McGowan and M. Scanlon 159
- Poa sylvestris* A. Gray, 1998 K. McGowan and M. Scanlon 105
- Poa trivialis* L., 1998 K. McGowan and M. Scanlon 216 Europe
- Puccinellia distans* (Jacq.) Parl., 1985 A.W. Cusick 24315
- Leersia oryzoides* (L.) Sw., 1944 L.K. Henry s.n.
- Leersia virginica* Willd., 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15124
- Leptochloa fusca* (L.) Kunth ssp. *fascicularis* (Lam.) N. Snow, 1986 A.W. Cusick 25780
- Lolium perenne* L. ssp. *multiflorum* (Lam.) Husnot, 1994 W.A. Zanol 3493 Europe [*Lolium multiflorum* Lam.]
- Lolium perenne* L. ssp. *perenne*, 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13546 Europe
- Schizachyrium scoparium* (Michx.) Nash var. *scoparium*, 1945 W.E. Buker s.n.
- Secale cereale* L., 1884 J.A. Shafer s.n. Eurasia
- Setaria faberi* Herrm., 1994 W.A. Zanol 3488 Eastern Asia
- Setaria italica* (L.) Beauv., 1924 J. Bright s.n. Eurasia
- Setaria pumila* (Poir.) Roemer & J.A. Schultes ssp. *pumila*, 1954 O.E. Jennings s.n. Europe [*Setaria glauca* (L.) Beauv.]
- Setaria verticillata* (L.) Beauv., 1979 F.H. Utech 79-335 Eurasia
- Setaria viridis* (L.) Beauv. var. *viridis*, 1929 W.R. VanDersal 321 Eurasia
- Sorghastrum nutans* (L.) Nash, 1946 W.E. Buker s.n.
- Sorghum halepense* (L.) Pers., 1924 S. Bright s.n. Mediterranean
- Spartina pectinata* Bosc ex Link, 1945 W.E. Buker s.n.
- Sphenopholis intermedia* (Rybd.) Rybd., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13542
- Sphenopholis nitida* (Biehler) Scribn., 1925 J. Bright s.n.
- Sphenopholis obtusata* (Michx.) Scribn., 1928 J. Bright 466
- Sporobolus compositus* (Poir.) Merr. var. *compositus*, 1902 B.H. Patterson s.n. [*Sporobolus asper* (Beauv.) Kunth]
- Sporobolus neglectus* Nash, 1895 B.H. Patterson s.n.
- Sporobolus vaginiflorus* (Torr. ex A. Gray) Wood var. *vaginiflorus*, 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15209
- Tridens flavus* (L.) A.S. Hitchc. var. *flavus*, 1997 S.A. Thompson and B.L. Isaac 14157
- Triticum aestivum* L., 1992 W.A. Zanol 1114 Eurasia
- Vulpia octoflora* (Walter) Rydb. var. *glauca* (Nutt.) Fern., 1890 B.H. Patterson s.n.
- Zea mays* L. ssp. *mays*, 1945 O.T. Jiel s.n. Tropical America

### Polemoniaceae

*Phlox divaricata* L. ssp. *divaricata*, 1991 W.A. Zanol 520

*Phlox maculata* L. ssp. *maculata*, 1923 M. Stewart s.n.

*Phlox paniculata* L., 2001 S.N. Costabile 20

*Phlox subulata* L. ssp. *subulata*, 1991 W.A. Zanol 507

*Polemonium reptans* L. var. *reptans*, 1991 W.A. Zanol 480

### Polygalaceae

*Polygala ambigua* Nutt., 1955 W.E. Buker s.n. [*Polygala verticillata* L. var. *ambigua* (Nutt.) Wood]

*Polygala sanguinea* L., 1985 M. Macdonald and K. Stewart LSCW146

*Polygala verticillata* L. var. *isocycla* Fern., 1909 B.H. Patterson s.n.

*Polygala verticillata* L. var. *verticillata*, 1939 W.G. Burig s.n.

### Polygonaceae

*Fallopia baldschuanica* (Regel) Holub, 1931 J. Bright 5890 Asia [*Polygonum aubertii* Henry]

*Fallopia cilinodis* (Michx.) Holub, 1946 W.E. Buker s.n. [*Polygonum cilinode* Michx.]

*Fallopia convolvulus* (L.) A. Love, 1968 N.R. Farnsworth s.n. Europe [*Polygonum convolvulus* L.]

*Fallopia japonica* (Houtt.) R. Decr., 1998 K. McGowan and M. Scanlon 320 Japan [*Polygonum cuspidatum* Sieb. & Zucc.]

*Fallopia sachalinensis* (F. Schmidt ex Maxim.) R. Decr., 1997 S.A. Thompson and B.L. Isaac and M.A. Rosenberger 14124 Asia [*Polygonum sachalinense* F. Schmidt ex Maxim.]

*Fallopia scandens* (L.) Holub, 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15123 [*Polygonum scandens* L.]

*Persicaria amphibia* (L.) S.F. Gray p.p., var. *emersa* (Michx.) Hickman, 1969 W.E. Buker s.n. [*Polygonum amphibium* L. var. *emersum* Michx.]

*Persicaria arifolia* (L.) Harolds., 1919 O.E. Jennings s.n. [*Polygonum arifolium* L.]

*Persicaria hydropiper* (L.) Opiz, 1927 W.C. Grimm 225 Europe [*Polygonum hydropiper* L.]

*Persicaria hydropiperoides* (Michx.) Small, 1912 O.E. Jennings s.n. [*Polygonum hydropiperoides* Michx.]

*Persicaria lapathifolia* (L.) S.F. Gray, 1990 W.A. Zanol 400 [*Polygonum lapathifolium* L.]

*Persicaria longiseta* (de Bruyn) Modenke, 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13552 [*Polygonum caespitosum* Blume var. *longisetum* (de Bruyn) A.N. Steward]

*Persicaria maculosa* S.F. Gray, 1998 S.A. Thompson 14929 Europe [*Polygonum persicaria* L.]

*Persicaria orientalis* (L.) Spach, 1968 W.E. Buker s.n. India [*Polygonum orientale* L.]

*Persicaria pensylvanica* (L.) Small, 1990 W.A. Zanol 250 [*Polygonum pensylvanicum* L. ssp. *pensylvanicum*]

*Persicaria perfoliata* (L.) H. Gross, 2002 B.L. Isaac and J.A. Isaac 14333 Asia [*Polygonum perfoliatum* L.]

*Persicaria posumbu* (Buch.-Ham. ex D. Don) H. Gross, 1990 W.A. Zanol 269 Asia [*Polygonum caespitosum* Blume var. *caespitosum*]

*Persicaria punctata* (Ell.) Small, 1998 S.A. Thompson and B.L.



Isaac and J.A. Isaac 15136 [*Polygonum punctatum* Ell. var. *confertiflorum* (Meisn.) Fassett]

*Persicaria sagittata* (L.) Gross., 1998 K. McGowan and M. Scanlon 344 [*Polygonum sagittatum* L.]

*Persicaria virginiana* (L.) Gaertn., 1998 K. McGowan and M. Scanlon 294 [*Polygonum virginianum* L.]

*Polygonum aviculare* L. ssp. *aviculare*, 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13582 Europe

*Polygonum erectum* L., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13585

*Rumex acetosella* L., 1998 K. McGowan and M. Scanlon 134 Eurasia *Rumex obtusifolius* L., 1998 K. McGowan and M. Scanlon 222 Europe

*Rumex altissimus* Wood, 1958 W.E. Buker s.n.

*Rumex britannica* L., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13567 [*Rumex orbiculatus* A. Gray]

*Rumex crispus* L. ssp. *crispus*, 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13553 Europe

*Rumex mexicanus* Meisn., 1930 W.R. VanDersal 1736 [*Rumex salicifolius* Weinm. var. *mexicanus* (Meisn.) C.L. Hitchc.]

#### Pontederiaceae

*Pontederia cordata* L., 2002 M. Toogood s.n.

#### Portulacaceae

*Claytonia caroliniana* Michx., 1984 B. Behrer and M. Macdonald LSCW 30

*Claytonia virginica* L. var. *virginica*, 1998 K. McGowan and M. Scanlon 6

*Portulaca oleracea* L., 1990 W.A. Zanol 302

#### Potamogetonaceae

*Potamogeton crispus* L., 1975 J.M. Eggers 15 Europe

*Potamogeton epihydrus* Raf., 1933 W.R. Van Dersal s.n. [*Potamogeton epihydrus* Raf. var. *nuttallii* (Cham. & Schlect) Fern.]

*Potamogeton foliosus* Raf. ssp. *foliosus*, 1900 J.A. Shafer s.n.

*Potamogeton illinoensis* Morong, 1900 J.A. Shafer s.n.

*Potamogeton nodosus* Poir., 1923 J. Bright s.n.

*Potamogeton perfoliatus* L., 1900 J.A. Shafer s.n.

*Potamogeton spirillus* Tuckerman, 1923 J. Bright s.n.

*Potamogeton tennesseensis* Fern., 1975 J.M. Eggers 10 G2:S1

#### Primulaceae

*Anagallis arvensis* L. ssp. *arvensis*, 1962 M. Reynolds and F. Schell s.n. Eurasia

*Dodecatheon meadia* L. ssp. *meadia*, 1923 O.E. Jennings s.n. G5:S1

*Lysimachia ciliata* L., 1994 F.H. Utech and T.D. Jacobsen and R.W. Kiger 94-2304

*Lysimachia clethroides* Duby, 1981 I. Pollack s.n. Asia

*Lysimachia lanceolata* Walt., 1945 L.K. Henry s.n.

*Lysimachia nummularia* L., 1990 W.A. Zanol 96 Europe

*Lysimachia quadrifolia* Sims, 1991 W.A. Zanol 587

*Lysimachia terrestris* (L.) B.S.P., 1993 W.A. Zanol 2146

*Lysimachia vulgaris* L., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13595 Eurasia

#### Pyrolaceae

*Chimaphila maculata* (L.) Pursh, 1945 W.E. Buker s.n.

*Chimaphila umbellata* (L.) W. Bart. ssp. *cisatlantica* (Blake) Hulten, 1945 L.K. Henry s.n.

*Pyrola americana* Sweet, 1932 C.M. Hepner s.n.

*Pyrola elliptica* Nutt., 1945 W.E. Buker s.n.

#### Ranunculaceae

*Actaea pachypoda* Ell., 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15156 [*Actaea alba* auct. non (L.) P. Mill.]

*Actaea racemosa* L., 1964 W.D. Loub and E.E. Maloney WP-796 [*Cimicifuga racemosa* (L.) Nutt.]

*Anemone canadensis* L., 1912 J. Bright s.n.

*Anemone quinquefolia* L. var. *quinquefolia*, 1986 M. Macdonald and J. Konrad LSCW163

*Anemone virginiana* L. var. *virginiana*, 1994 F.H. Utech and T.D. Jacobsen and R.W. Kiger 94-2285

*Aquilegia canadensis* L., 1991 W.A. Zanol 525

*Aquilegia vulgaris* L., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13605 Europe

*Caltha palustris* L. var. *palustris*, 1915 O.E. Jennings and G.K. Jennings s.n. [*Caltha palustris* L. var. *flabellifolia* (Pursh) Torr. & A. Gray]

*Clematis viorna* L., 1873 B.H. Patterson s.n. G5:S1

*Clematis virginiana* L., 1990 W.A. Zanol 194

*Delphinium exaltatum* Ait., 1950 W.E. Buker s.n. G3:S1

*Delphinium tricorne* Michx., 1992 W.A. Zanol 969

*Ficaria verna* Huds., 1986 M. Macdonald and J. Konrad LSCW167 Eurasia [*Ranunculus ficaria* L. ssp. *bulbifera* Lambinon]

*Helleborus viridis* L., 1942 E.H. McClelland s.n. Europe

*Hepatica nobilis* Schreber var. *acuta* (Pursh) Steyermark, 1991 W.A. Zanol 463 [*Hepatica acutiloba* DC.]

*Hepatica nobilis* Schreber var. *obtusata* (Pursh) Steyermark, 1991 W.A. Zanol 424 [*Hepatica americana* (DC.) Ker-Gawl]

*Hydrastis canadensis* L., 1950 W.E. Buker s.n. G4:S4

*Ranunculus abortivus* L., 1998 K. McGowan and M. Scanlon 173

*Ranunculus acris* L. var. *acris*, 1945 L.K. Henry s.n. Europe

*Ranunculus allegheniensis* Britt., 1945 O.E. Jennings s.n.

*Ranunculus ambigens* S. Wats., 1912 J. Bright s.n. G4:S3

*Ranunculus bulbosus* L., 1998 K. McGowan and M. Scanlon 126 Europe

*Ranunculus flabellaris* Raf., 1930 J. Bright 2477 G5:S2

*Ranunculus hispidus* Michx. var. *hispidus*, 1992 W.A. Zanol 979

*Ranunculus hispidus* Michx. var. *nitidus* (Chapman) T. Duncan, 1993 F.W. Wright Jr. 109 [*Ranunculus septentrionalis* Poir.]

*Ranunculus micranthus* Nutt., 1997 J.D. Wagner and S. Grund 1493

*Ranunculus recurvatus* Poir. var. *recurvatus*, 2002 B.L. Isaac and J.A. Isaac 14383

*Ranunculus repens* L., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13581 Europe

*Ranunculus sceleratus* L. var. *sceleratus*, 1998 B.L. Isaac and J.A. Isaac 11740

*Thalictrum dioicum* L., 1994 W.A. Zanol 2444

*Thalictrum pubescens* Pursh, 1990 W.A. Zanol 27

*Thalictrum revolutum* DC., 1921 J. Bright s.n.

*Thalictrum thalictroides* (L.) Eames & Boivin, 1992 W.A. Zanol 1222

*Trautvetteria caroliniensis* (Walter) Vail var. *caroliniensis*, 1888 C.D. Beadle herbarium s.n. G5:S3

**Rhamnaceae**

- Ceanothus americanus* L., 1994 F.H. Utech and T.D. Jacobsen and R.W. Kiger 94-2266  
*Frangula alnus* P. Mill., 2002 S.P. Grund and M.L. Speedy 2901 Europe and Western Asia  
*Rhamnus alnifolia* L'Her., 1959 W.E. Buker s.n.  
*Rhamnus cathartica* L., 2002 B.L. Isaac and J.A. Isaac 14344 Europe

**Rosaceae**

- Agrimonia gryposepala* Wallr., 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15133  
*Agrimonia microcarpa* Wallr., 1969 W.E. Buker s.n. [*Agrimonia pubescens* Wallr. var. *microcarpa* (Wallr.) Ahles]  
*Agrimonia parviflora* Ait., 1991 W.A. Zanol 867  
*Agrimonia pubescens* Wallr., 1955 L.K. Henry  
*Agrimonia rostellata* Wallr., 1912 J. Bright 26  
*Amelanchier arborea* (Michx. f.) Fern., 1947 L.K. Henry s.n.  
*Amelanchier canadensis* (L.) Medik., 1899 J.A. Shafer s.n. G5:SNR  
*Amelanchier laevis* Wieg., 1899 J.A. Shafer s.n.  
*Amelanchier sanguinea* (Pursh) DC. var. *sanguinea*, 1946 W.E. Buker s.n. G5:S1 [*Amelanchier humilis* Wieg.]  
*Amelanchier spicata* (Lam.) K. Koch, 1939 O.E. Jennings s.n. [*Amelanchier stolonifera* Wieg.]  
*Amelanchier x intermedia* Spach (pro sp.), 1950 W.E. Buker s.n.  
*Aruncus dioicus* (Walt.) Fern. var. *dioicus*, 1997 S.A. Thompson and B.L. Isaac and R. Goto and T. Collins 14204  
*Crataegus brainerdii* Sarg., 1923 J. Bright s.n. G5:SU  
*Crataegus comata* Sarg., 2002 J.A. Macklin and B. Isaac and J. Isaac 2002.12  
*Crataegus compacta* Sarg., 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15144  
*Crataegus crus-galli* L., 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15143  
*Crataegus disperma* Ashe, 1907 O.E. Jennings and G.K. Jennings tree 29 [*Crataegus punctata* Jacq. var. *pausiaca* (Ashe) Palmer]  
*Crataegus dissona* Sarg., 1909 O.E. Jennings and G.K. Jennings s.n. [*Crataegus pruinosa* (Wendl. f.) K. Koch var. *dissona* (Sarg.) Egglest.]  
*Crataegus holmesiana* Ashe, 1908 O.E. Jennings OEJ 22  
*Crataegus intricata* Lange, 1909 O.E. Jennings tree 54 [*Crataegus biltmoreana* Beadle]  
*Crataegus iracunda* Beadle, 2001 J.A. Isaac 13623 [*Crataegus brumalis* Ashe]  
*Crataegus jesupii* Sarg., 1909 O.E. Jennings tree 68 [*Crataegus filipes* Ashe]  
*Crataegus macrosperma* Ashe, 1950 W.E. Buker s.n.  
*Crataegus monogyna* Jacq., 1965 N.R. Farnsworth WP-1029 Eurasia  
*Crataegus pedicellata* Sarg., 2001 J.A. Isaac 13540 [*Crataegus coccinea* L. p.p.]  
*Crataegus pennsylvanica* Ashe, 2002 B.L. Isaac and J.A. Isaac 14539 G3Q:S2S3  
*Crataegus pringlei* Sarg., 1924 J. Bright s.n.  
*Crataegus pruinosa* (Wendl. f.) K. Koch, 1909 O.E. Jennings tree 38  
*Crataegus punctata* Jacq., 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14372  
*Crataegus scabrida* Sarg., 2002 J.A. Macklin and B. Isaac and J. Isaac 2002.14 [*Crataegus scabrida* Sarg. var. *asperifolia* (Sarg.) Kruschke]  
*Crataegus succulenta* Schrad. ex Link, 1925 J. Bright s.n.  
*Crataegus uniflora* Muenchh., 1904 B.H. Patterson s.n.  
*Cydonia oblonga* P. Mill., 1928 J. Bright 42 Eurasia  
*Drymocallis arguta* (Pursh) Rydb. ssp. *arguta*, 1902 J.E. Winner s.n. [*Potentilla arguta* Pursh ssp. *arguta*]  
*Duchesnea indica* (Andr.) Focke, 1997 J.A. Isaac and B.L. Isaac 10179 Asia  
*Filipendula rubra* (Hill) B.L. Robins., 1977 W.E. Buker s.n. G4G5:S1S2  
*Fragaria vesca* L. ssp. *americana* (Porter) Staudt, 1924 J. Bright s.n.  
*Fragaria vesca* L. ssp. *vesca*, 1946 W.E. Buker s.n.  
*Fragaria virginiana* Duchesne ssp. *grayana* (Vilm. ex J. Gay) Staudt, 1946 E. Mason s.n.  
*Fragaria virginiana* Duchesne ssp. *virginiana*, 1998 K. McGowan and M. Scanlon 89  
*Geum canadense* Jacq. var. *canadense*, 1998 S.A. Thompson and B.L. Isaac 14959  
*Geum laciniatum* Murr. var. *laciniatum*, 1990 W.A. Zanol 184  
*Geum laciniatum* Fern. var. *trichocarpum* Fern., 1909 O.E. Jennings s.n.  
*Geum rivale* L., 1944 O.E. Jennings s.n.  
*Geum urbanum* L., 1909 W. Dole s.n. Eurasia  
*Geum vernum* (Raf.) Torr. & A. Gray, 1998 K. McGowan and M. Scanlon 148  
*Geum virginianum* L., 1919 O.E. Jennings s.n.  
*Gillenia trifoliata* (L.) Moench, 1955 E. Mason s.n. [*Porteranthus trifoliatus* (L.) Britt.]  
*Malus baccata* (L.) Borkh., 1998 K. McGowan and M. Scanlon 372 Eurasia  
*Malus coronaria* (L.) P. Mill., 1992 W.A. Zanol 976  
*Malus prunifolia* (Willd.) Borkh., 1998 K. McGowan and M. Scanlon 306 Asia  
*Malus pumila* P. Mill., 1998 B.L. Isaac and M. Rosenberger 10213 Eurasia [*Pyrus malus* L.]  
*Malus toringo* (Sieb.) Sieb. ex de Vriese, 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15090 Eastern Asia [*Malus sieboldii* (Regel) Rehd.]  
*Photinia floribunda* (Lindl.) Robertson & Phipps, 1900 J.A. Shafer s.n. [*Pyrus floribunda* Lindl.]  
*Photinia melanocarpa* (Michx.) Robertson & Phipps, 1909 O.E. Jennings s.n. [*Pyrus melanocarpa* (Michx.) Willd.]  
*Photinia pyrifolia* (Lam.) Robertson & Phipps, 1932 C.M. Hepner s.n. [*Pyrus floribunda* Lindl.]  
*Physocarpus opulifolius* (L.) Maxim. var. *opulifolius*, 1998 K. McGowan and M. Scanlon 238  
*Potentilla canadensis* L. var. *canadensis*, 1916 B.H. Patterson s.n.  
*Potentilla canadensis* L. var. *villosissima* Fern., 2001 S.N. Costabile 4  
*Potentilla intermedia* L., 1982 W.E. Buker s.n. Eurasia  
*Potentilla norvegica* L. ssp. *monspeliensis* (L.) Aschers. &

- Graebn., 1994 F.H. Utech and T.D. Jacobsen and R.W. Kiger 94-2289
- Potentilla recta* L., 1998 S.A. Thompson 14917 Europe
- Potentilla simplex* Michx., 1998 K. McGowan and M. Scanlon 176
- Prunus americana* Marsh., 1945 L.K. Henry s.n.
- Prunus avium* (L.) L., 1999 B.L. Isaac and T. Herman 11778 Eurasia
- Prunus cerasus* L., 1922 J. Bright s.n. Eurasia
- Prunus mahaleb* L., 1997 F.H. Utech 97-162 Europe
- Prunus padus* L., 1978 N.D. Richmond s.n. Europe
- Prunus pennsylvanica* L. f. var. *pennsylvanica*, 1926 S.A. Auld s.n.
- Prunus persica* (L.) Batsch, 1979 E.W. Wood and D.E. Boufford and P. Singleton 4211 Asia
- Prunus pumila* L. var. *depressa* (Pursh) Gleason, 1900 J.A. Shafer s.n. G5T5:S1
- Prunus serotina* Ehrh. var. *serotina*, 2002 B.L. Isaac and J.A. Isaac 14368
- Prunus virginiana* L. var. *virginiana*, 1998 S.A. Thompson and B.L. Isaac 14963
- Pyracantha coccinea* M. Roemer, 1997 S.A. Thompson and B.L. Isaac 14167 Exotic
- Pyrus communis* L., 1998 B.L. Isaac and J.A. Isaac 11646 Eurasia
- Rosa canina* L., 1996 L.L. Smith and R. Hawk 44 Europe
- Rosa carolina* L. var. *carolina*, 2003 C.M. Bowers s.n.
- Rosa blanda* Aiton var. *blanda*, 1884 J.A. Shafer s.n. [*Rosa subblanda* Rydb.]
- Rosa eglanteria* L., 1955 E. Mason s.n. Europe [*Rosa rubiginosa* L.]
- Rosa multiflora* Thunb. ex Murr., 2002 M.L. Young and B.R. Swiech 7 Asia
- Rosa palustris* Marsh., 1945 L.K. Henry s.n.
- Rosa setigera* Michx. var. *tomentosa* Torr. & A. Gray, 1913 T.E. Kirch s.n. G5:SU
- Rosa virginiana* P.Mill. var. *virginiana*, 1918 B.H. Patterson s.n. G5:S1
- Rhodotypos scandens* (Thunb.) Makino, 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13614 Japan
- Rubus allegheniensis* Porter var. *allegheniensis*, 2002 B.L. Isaac and J.A. Isaac and S.P. Grund and McPherson 14352
- Rubus caesius* L., 1998 B.L. Isaac and J.A. Isaac 11722 Europe
- Rubus deamii* Bailey, 1905 O.E. Jennings s.n.
- Rubus flagellaris* Willd., 1998 K. McGowan and M. Scanlon 207
- Rubus hispidus* L., 1944 O.E. Jennings s.n.
- Rubus idaeus* L. ssp. *strigosus* (Michx.) Focke, 1925 C.K. Henlen 393 Exotic [*Rubus strigosus* Michx.]
- Rubus laciniatus* Willd., 1997 S.A. Thompson and B.L. Isaac and M.A. Rosenberger 14106 Europe
- Rubus laudatus* Berger, 1944 L.K. Henry s.n.
- Rubus pensilvanicus* Poir., 2002 B.L. Isaac and J.A. Isaac and S.P. Grund and McPherson 14351
- Rubus pergratus* Blanch., 1998 K. McGowan and M. Scanlon 274 [*Rubus orarius* Blanch.]
- Rubus phoenicolasius* Maxim., 1979 D.E. Boufford 21187 Asia
- Rubus plicatifolius* Blanch., 1918 O.E. Jennings s.n.
- Rubus odoratus* L. var. *odoratus*, 1991 W.A. Zanol 703
- Rubus occidentalis* L., 1998 K. McGowan and M. Scanlon 286
- Rubus rosa* Bailey, 1918 O.E. Jennings s.n.
- Sanguisorba canadensis* L., 1912 J. Bright s.n.
- Sorbaria sorbifolia* (L.) A. Braun, 1901 J.A. Shafer s.n. Asia
- Spiraea alba* Du Roi var. *alba*, 1945 L.K. Henry s.n.
- Spiraea alba* Du Roi var. *latifolia* (Ait.) Dippel, 1913 J. Bright s.n. [*Spiraea latifolia* (Aiton) Borkh.]
- Spiraea prunifolia* Sieb. & Zucc., 1946 W.E. Buker s.n. Asia
- Spiraea tomentosa* L., 1990 W.A. Zanol 206
- Waldsteinia fragarioides* (Michx.) Tratt. ssp. *fragarioides*, 1991 W.A. Zanol 528

### Rubiaceae

- Cephalanthus occidentalis* L., 1996 S. Grund 1674
- Diodia teres* Walt., 1982 W.W. Thomas and W.E. Buker 2975
- Galium aparine* L., 1998 K. McGowan and M. Scanlon 184
- Galium asprellum* Michx., 1944 L.K. Henry s.n.
- Galium boreale* L., 1921 O.E. Jennings s.n.
- Galium circaezans* Michx., 1944 L.K. Henry s.n.
- Galium concinnum* Torr. & A. Gray, 1991 W.A. Zanol 818
- Galium lanceolatum* Torr., 1932 C.M. Hepner s.n.
- Galium mollugo* L., 1931 J. Bright 5404 Eurasia
- Galium obtusum* Bigelow ssp. *obtusum*, 1902 B.H. Patterson s.n.
- Galium palustre* L., 1917 B.H. Patterson s.n.
- Galium pilosum* Ait., 1937 F.R. Fosberg 14320
- Galium tinctorium* (L.) Scop., 1932 C.M. Hepner s.n.
- Galium triflorum* Michx., 1998 S.A. Thompson and B.L. Isaac 14966
- Galium verum* L. var. *verum*, 1961 V. Phelps s.n. Eurasia
- Houstonia caerulea* L., 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14379
- Houstonia canadensis* Willd. ex Roemer & J.A. Schultes, 1950 W.E. Buker s.n.
- Houstonia longifolia* Gaertn., 1946 W.E. Buker s.n.
- Mitchella repens* L., 1889 M.T. Shafer s.n.
- Sherardia arvensis* L., 1949 L.K. Henry s.n. Eurasia

### Rutaceae

- Ptelea trifoliata* L. ssp. *trifoliata* var. *trifoliata*, 2002 B.L. Isaac and J.A. Isaac 14348 G5:S2
- Zanthoxylum americanum* P. Mill., 1900 J.A. Shafer s.n.

### Salicaceae

- Populus alba* L., 1979 E.W. Wood and D.E. Boufford and L. Schram 4240 Eurasia
- Populus deltoides* Bartr. ex Marsh. ssp. *deltoides*, 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13610
- Populus grandidentata* Michx., 1999 B.L. Isaac and T. Herman 11781
- Populus nigra* L., 1966 P. Monk s.n. Eurasia
- Populus tremuloides* Michx., 1997 S.A. Thompson and B.L. Isaac and M. Sally 13480
- Populus x jackii* Sarg., 1940 O.E. Jennings s.n.
- Salix alba* L., 1991 W.A. Zanol 454 Eurasia
- Salix bebbiana* Sarg., 1924 J. Bright s.n.
- Salix caroliniana* Michx., 1908 O.E. Jennings s.n. G5:S1
- Salix discolor* Muhl., 1992 W.A. Zanol 973
- Salix eriocephala* Michx., 2002 S.P. Grund and M.L. Speedy 2897

- Salix exigua* Nutt. var. *exigua*, 2002 B.L. Isaac and J.A. Isaac 14372 [*Salix interior* Rowlee]  
*Salix fragilis* L., 1998 B.L. Isaac and J.A. Isaac 11725 Europe  
*Salix humilis* Marsh. var. *humilis*, 1908 O.E. Jennings s.n. [*Salix humilis* Marsh. var. *hyporhysa* Fern.]  
*Salix humilis* Marsh. var. *tristis* (Ait.) Griggs, 1902 J.A. Shafer s.n. [*Salix humilis* Marsh. var. *microphylla* (Anderss.) Fern.]  
*Salix lucida* Muhl., 1925 J. Bright s.n.  
*Salix nigra* Marsh., 1998 S.A. Thompson 14919  
*Salix petiolaris* Sm., 1994 W.A. Zanol 3078 G5:S4  
*Salix purpurea* L., 1982 W.E. Buker s.n. Europe  
*Salix sericea* Marsh., 1919 O.E. Jennings s.n.

### Santalaceae

- Comandra umbellata* (L.) Nutt ssp. *umbellata*, 1924 J. Bright s.n.

### Saururaceae

- Saururus cernuus* L., 1956 D.T. Patterson s.n.

### Saxifragaceae

- Chrysosplenium americanum* Schwein. ex Hook., 1928 J. Bright 17  
*Heuchera americana* L. var. *americana*, 1965 N.R. Farnsworth WP-1050  
*Heuchera pubescens* Pursh, 1904 A.D. Frost s.n.  
*Mitella diphylla* L., 1991 W.A. Zanol 526  
*Saxifraga pensylvanica* L., 1945 O.E. Jennings s.n.  
*Saxifraga virginensis* Michx. var. *virginensis*, 1991 W.A. Zanol 471  
*Tiarella cordifolia* L. var. *cordifolia*, 1923 J. Bright s.n.

### Scrophulariaceae

- Agalinis tenuifolia* (Vahl) Raf. var. *tenuifolia*, 1998 K. McGowan and M. Scanlon 351  
*Antirrhinum majus* L., 1997 S.A. Thompson and B.L. Isaac 14186 Europe  
*Aureolaria flava* (L.) Farw. var. *flava*, 1907 O.E. Jennings s.n.  
*Aureolaria pedicularia* (L.) Raf. var. *intercedens* Pennell, 1917 B.H. Patterson s.n.  
*Aureolaria virginica* (L.) Pennell, 1907 D.A. Atkinson s.n.  
*Castilleja coccinea* (L.) Spreng., 1886 J.A. Shafer s.n. G5:S2  
*Chaenorhinum minus* (L.) Lange, 1997 S.A. Thompson 13438 Europe  
*Chelone glabra* L., 1990 W.A. Zanol 368 [*Chelone glabra* L. var. *elatior* Raf.]  
*Collinsia verna* Nutt., 1997 J.D. Wagner 1495 G5:S4  
*Gratiola neglecta* Torr., 1945 W.E. Buker s.n.  
*Linaria vulgaris* P. Mill., 2001 S.N. Costabile 2 Eurasia  
*Lindernia dubia* (L.) Pennell var. *dubia*, 1994 W.A. Zanol 3079  
*Melampyrum lineare* Desr. var. *lineare*, 1932 C.M. Hepner s.n. [*Melampyrum lineare* Desr. var. *americanum* (Michx.) Beauverd]  
*Mimulus alatus* Ait., 1925 J. Bright s.n.  
*Mimulus ringens* L. var. *ringens*, 1997 S.A. Thompson and B.L. Isaac 13856  
*Nuttallanthus canadensis* (L.) D.A. Sutton, 1946 W.E. Buker s.n. G5:S4 [*Linaria canadensis* (L.) Chaz.]  
*Paulownia tomentosa* (Thunb.) Sieb. & Zucc. ex Steud., 1991 W.A. Zanol 506 China

- Pedicularis canadensis* L. ssp. *canadensis*, 1945 L.K. Henry s.n.  
*Pedicularis lanceolata* Michx., 1917 B.H. Patterson s.n. G5:S1S2  
*Penstemon digitalis* Nutt. ex Sims, 1979 D.E. Boufford 21113  
*Penstemon hirsutus* (L.) Willd., 1991 W.A. Zanol 690  
*Penstemon laevigatus* Ait., 1948 D.H. Krouse s.n. G5:S3  
*Scrophularia lanceolata* Pursh, 1933 C.T. Agostini s.n.  
*Scrophularia marilandica* L., 1998 K. McGowan and M. Scanlon 315  
*Verbascum blattaria* L., 2002 H. George s.n. Eurasia  
*Verbascum thapsus* L., 1990 W.A. Zanol 95 Europe  
*Verbascum virgatum* Stokes, 1945 W.E. Buker s.n. Europe  
*Veronica americana* Schwein. ex Benth., 1992 W.A. Zanol 1224  
*Veronica arvensis* L., 2002 B.L. Isaac and J.A. Isaac 14359 Eurasia  
*Veronica chamaedrys* L., 1985 J. Konrad and M. Macdonald LSCW105 Eurasia  
*Veronica hederifolia* L., 1978 W.E. Buker s.n. Eurasia  
*Veronica officinalis* L., 1998 K. McGowan and M. Scanlon 166  
*Veronica peregrina* L. ssp. *peregrina*, 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14308  
*Veronica persica* Poir., 1991 W.A. Zanol 432 Eurasia  
*Veronica scutellata* L., 1898 J.A. Shafer s.n.  
*Veronica serpyllifolia* L. ssp. *serpyllifolia*, 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14382 Europe  
*Veronicastrum virginicum* (L.) Farw., 1945 L.K. Henry s.n.

### Simaroubaceae

- Ailanthus altissima* (P. Mill.) Swingle, 2002 H. George s.n. Asia

### Smilacaceae

- Smilax glauca* Walt., 1908 B.H. Patterson s.n. [*Smilax glauca* Walt. var. *leurophylla* Blake]  
*Smilax herbacea* L., 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14331  
*Smilax hispida* Muhl. ex Torr., 1992 W.A. Zanol 1158 [*Smilax tamnoides* L.]  
*Smilax rotundifolia* L., 1992 W.A. Zanol 1120

### Solanaceae

- Datura stramonium* L., 1963 N.R. Farnsworth WP-537 Mexico  
*Datura wrightii* Regel, 1960 R. Aborn s.n. [*Datura meteloides* auct. p.p. non Dunal]  
*Lycium barbarum* L., 1998 B.L. Isaac and J.A. Isaac 11743 Eurasia  
*Nicandra physalodes* (L.) Gaertn., 1885 J.A. Shafer s.n. Peru  
*Petunia x atkinsiana* D. Don ex Loud., 1991 W.A. Zanol 808 South America [*Petunia x hybrida* Vilm.]  
*Physalis alkekengi* L., 1965 N.R. Farnsworth WP-1127 Eurasia  
*Physalis heterophylla* Nees var. *heterophylla*, 1998 S.A. Thompson 14915  
*Physalis longifolia* Nutt. var. *subglabrata* (Mackenzie & Bush) Cronq., 1998 S.A. Thompson and B.L. Isaac 14940  
*Physalis pubescens* L. var. *integrifolia* (Dunal) Waterfall, 1923 J. Bright s.n.  
*Physalis pubescens* L. var. *pubescens*, 1950 W.E. Buker s.n.  
*Solanum carolinense* L. var. *carolinense*, 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13609  
*Solanum dulcamara* L. var. *dulcamara*, 2002 M.L. Young and B.R. Swiech 9 Eurasia

- Solanum ptycanthum* Dunal, 1994 W.A. Zanol 2852  
*Solanum rostratum* Dunal, 1972 C. Cianchetti s.n. [*Solanum cornutum* auct. non Lam.]

**Sparganiaceae**

- Sparganium americanum* Nutt., 1936 J. Bright 13957  
*Sparganium eurycarpum* Engelm. ex A. Gray, 1992 W.A. Zanol 1117

**Staphyleaceae**

- Staphylea trifolia* L., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13612

**Thymelaeaceae**

- Dirca palustris* L., 1942 E.H. McClelland s.n.

**Tiliaceae**

- Tilia americana* L. var. *americana*, 1997 S.A. Thompson and B.L. Isaac 14148  
*Tilia americana* L. var. *heterophylla* (Vent.) Loud., 1942 Duff s.n.  
*Tilia platyphyllos* Scop., 2002 B.L. Isaac and J.A. Isaac 14361 Europe

**Typhaceae**

- Typha angustifolia* L., 1998 S.A. Thompson 14923 Europe  
*Typha latifolia* L., 1994 W.A. Zanol 3779  
*Typha x glauca* Godr. (pro sp.), 1924 J. Bright s.n.

**Ulmaceae**

- Celtis occidentalis* L., 1998 B.L. Isaac and J.A. Isaac 11724  
*Ulmus americana* L., 1999 B.L. Isaac and T. Herman 11777  
*Ulmus pumila* L., 1998 B.L. Isaac and M. Rosenberger 10207 Asia  
*Ulmus rubra* Muhl., 1998 B.L. Isaac and J.A. Isaac 11585  
*Ulmus thomasii* Sarg., 1889 J. Furgeson s.n.

**Urticaceae**

- Boehmeria cylindrica* (L.) Sw., 1993 W.A. Zanol 2068  
*Laportea canadensis* (L.) Weddell, 1990 W.A. Zanol 160  
*Parietaria pensylvanica* Muhl. ex Willd., 2002 B.L. Isaac and J.A. Isaac 14341  
*Pilea pumila* (L.) A. Gray, 1997 S.A. Thompson and B.L. Isaac 14143  
*Urtica dioica* L. ssp. *dioica*, 1985 M. Macdonald and K. Stewart LSCW134 Europe  
*Urtica dioica* L. ssp. *gracilis* (Ait.) Seland., 1997 S.A. Thompson and B.L. Isaac 13883

**Valerianaceae**

- Valeriana officinalis* L., 1897 C.C. Mellor s.n. Eurasia  
*Valeriana pauciflora* Michx., 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14316  
*Valerianella chenopodiifolia* (Pursh) DC., 1998 K. McGowan and M. Scanlon 92  
*Valerianella locusta* (L.) Lat., 1902 J.A. Shafer s.n. Europe  
*Valerianella umbilicata* (Sullivant) Wood, 1945 O.E. Jennings s.n.

**Verbenaceae**

- Phryma leptostachya* L., 1920 M. Knauz s.n.  
*Verbena bonariensis* L. var. *bonariensis*, 1998 B.L. Isaac and J.A. Isaac 11742 South America

- Verbena hastata* L., 1990 W.A. Zanol 110  
*Verbena stricta* Vent., 1922 J. Bright s.n.  
*Verbena urticifolia* L., 1998 K. McGowan and M. Scanlon 335

**Violaceae**

- Hybanthus concolor* (T.F. Forst.) Spreng., 1963 W.E. Buker s.n.  
*Viola affinis* Le Conte, 1992 W.A. Zanol 980  
*Viola arvensis* Murray, 1993 R.S. Fox s.n. Europe  
*Viola bicolor* Pursh, 1919 E.M. Gress s.n.  
*Viola blanda* Willd. var. *blanda*, 1946 W.E. Buker s.n.  
*Viola canadensis* L. var. *canadensis*, 1940 L.K. Henry s.n.  
*Viola cucullata* Ait., 1996 R.W. Kiger 806  
*Viola hirsutula* Brainerd, 1922 J. Bright s.n.  
*Viola labradorica* Schrank, 1929 E.H. Graham s.n.  
*Viola lanceolata* L. ssp. *lanceolata*, 1923 J. Bright s.n.  
*Viola odorata* L., 1998 B.L. Isaac and M. Rosenberger 10216 Europe  
*Viola palmata* L., 1992 W.A. Zanol 983 [*Viola stoneana* House]  
*Viola pubescens* Ait., 1997 S.A. Thompson and M. Sally 13505  
*Viola rostrata* Pursh, 1991 W.A. Zanol 472  
*Viola sagittata* Ait. var. *ovata* (Nutt.) Torr. & A. Gray, 1991 W.A. Zanol 497  
*Viola sagittata* Ait. var. *sagittata*, 1991 W.A. Zanol 449  
*Viola sororia* Willd., 1998 K. McGowan and M. Scanlon 16  
*Viola striata* Ait., 1998 K. McGowan and M. Scanlon 152  
*Viola tricolor* L., 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14352 Europe  
*Viola x bernardii* Greene (Greene), 1922 J. Bright s.n. [*Viola subsinuata* (Greene) Greene]  
*Viola x cordifolia* (Nutt.) Schwein. (pro sp.), 1949 L.K. Henry 9  
*Viola x porteriana* Pollard (pro sp.), 1906 O.E. Jennings and G.E. Kinzer s.n.  
*Viola x primulifolia* L. (pro sp.), 1898 J.A. Shafer s.n. [*Viola primulifolia* L.]

**Vitaceae**

- Ampelopsis brevipedunculata* (Maxim.) Trautv., 2002 H. George s.n. Asia  
*Parthenocissus quinquefolia* (L.) Planch., 1998 K. McGowan and M. Scanlon 199  
*Parthenocissus tricuspidata* (Sieb. & Zucc.) Planch., 1998 B.L. Isaac and J.A. Isaac 11744 China and Japan  
*Parthenocissus vitacea* (Knerr) A.S. Hitchc., 1990 W.A. Zanol 20  
*Vitis aestivalis* Michx. var. *bicolor* Deam, 1992 W.A. Zanol 1231  
*Vitis cinerea* (Engelm.) Millard var. *baileyana* (Munson) Comeaux, 1919 O.E. Jennings s.n. G4G5TNR:SH  
*Vitis labrusca* L., 1917 B.H. Patterson s.n.  
*Vitis riparia* Michx., 1997 S.A. Thompson and B.L. Isaac 13845  
*Vitis vulpina* L., 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13573  
*Vitis x novae-angliae* Fern. (pro sp.), 1912 B.H. Patterson s.n. G4G5Q:S1

**Zygophyllaceae**

- Tribulus terrestris* L., 1984 W.E. Buker s.n. Mediterranean

## EQUISETOPHYTES

## Equisetaceae

- Equisetum arvense* L., 2002 B.L. Isaac and J.A. Isaac 14363  
*Equisetum fluviatile* L., 1910 L.S. Hopkins s.n.  
*Equisetum hyemale* L. var. *affine* (Engelm.) A.A. Eat., 1939 L.K. Henry and E.S. Henry s.n.  
*Equisetum sylvaticum* L., 1902 J.A. Shafer s.n.  
*Equisetum x litorale* Kuhlewein ex Rupr. (pro sp.), 1931 A.B. Lord s.n.

## GYMNOSPERMS

## Cupressaceae

- Juniperus virginiana* L. var. *virginiana*, 1942 J. Murdock s.n.

## Ginkgoaceae

- Ginkgo biloba* L., 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14311 China

## Pinaceae

- Larix decidua* P. Mill., 1998 S.A. Thompson and B.L. Isaac 14947 Europe  
*Picea abies* (L.) Karst., 1990 W.A. Zanol 414 Europe  
*Picea pungens* Engelm., 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15108  
*Pinus resinosa* Ait., 1915 O.E. Jennings 5467  
*Pinus rigida* P. Mill., 1921 O.E. Jennings s.n.  
*Pinus strobus* L., 1965 P.B. Monk s.n.  
*Pinus sylvestris* L., 1998 S.A. Thompson and B.L. Isaac 14967 Eurasia  
*Pinus virginiana* P. Mill., 1936 J.A. Churchill 188  
*Tsuga canadensis* (L.) Carr., 1991 W.A. Zanol 423

## Taxaceae

- Taxus canadensis* Marsh., 1917 O.E. Jennings s.n. G5:S3S4

## LYCOPHYTES

## Lycopodiaceae

- Dendrolycopodium dendroideum* (Michx.) Haines, 1947 W.E. Buker s.n. [*Lycopodium dendroideum* Michx.]  
*Dendrolycopodium hickeyi* (W.H. Wagner, Beitel & Moran) Haines, 2002 S.P. Grund and M.L. Speedy 2892 [*Lycopodium hickeyi* W.H. Wagner, Beitel & Moran]  
*Dendrolycopodium obscurum* (L.) Haines, 2004 S.R. Miller 14 [*Lycopodium obscurum* L.]  
*Huperzia lucidula* (Michx.) Trevisan, 1949 L.K. Henry s.n.  
*Lycopodium clavatum* L., 1946 W.E. Buker s.n.  
*Lycopodium digitatum* Dill. ex A. Braun, 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15166 [*Diphasiastrum digitatum* (Dill. ex A. Braun) Holub]  
*Lycopodium lagopus* (Laestad. Ex Hartm.) Zinserl., 1947 W.E. Buker s.n.  
*Lycopodium tristachyum* Pursh, 1921 O.E. Jennings s.n. [*Diphasiastrum tristachyum* (Pursh) Holub]  
*Lycopodium x habereri* House, 1946 W.E. Buker s.n. [*Diphasiastrum x habereri* (House) Holub]

## Selaginellaceae

- Selaginella apoda* (L.) Spring, 2002 B.L. Isaac and J.A. Isaac 14364

## POLYPODIOPHYTES

## Aspleniaceae

- Asplenium montanum* Willd., 1999 L. Savage s.n.  
*Asplenium platyneuron* (L.) B.S.P. var. *platyneuron*, 1998 S.A. Thompson and B. Isaac and J. Isaac and F.H. Utech 14360  
*Asplenium rhizophyllum* L., 1945 L.K. Henry s.n.  
*Asplenium trichomanes* L. ssp. *trichomanes*, 1921 O.E. Jennings s.n.

## Dennstaedtiaceae

- Dennstaedtia punctilobula* (Michx.) T. Moore, 2001 S.N. Costabile 6  
*Pteridium aquilinum* (L.) Kuhn var. *latiusculum* (Desv.) Underwood ex Heller, 1940 R.W. Little s.n.

## Dryopteridaceae

- Athyrium filix-femina* (L.) Roth ssp. *angustum* (Willd.) Clausen, 1998 K. McGowan and M. Scanlon 298  
*Athyrium filix-femina* (L.) Roth ssp. *asplenioides* (Michx.) Hulten, 1945 W.E. Buker s.n.  
*Cystopteris bulbifera* (L.) Bernh., 2001 J.A. Isaac 13541  
*Cystopteris protrusa* (Weatherby) Blasdell, 1996 S. Grund 1676  
*Cystopteris tenuis* (Michx.) Desv., 2001 J.A. Isaac 13540  
*Deparia acrostichoides* (Sw.) M. Kato, 1945 L.K. Henry s.n. [*Athyrium thelypteroides* (Michx.) Desv.]  
*Diplazium pycnocarpon* (Spreng.) Broun, 1985 C.C. Mellor, herbarium s.n. [*Athyrium pycnocarpon* (Spreng.) Tidestrom]  
*Dryopteris carthusiana* (Vill.) H.P. Fuchs, 2002 B.L. Isaac and J.A. Isaac 14375  
*Dryopteris cristata* (L.) A. Gray, 1945 W.E. Buker s.n.  
*Dryopteris filix-mas* (L.) Schott, 2000 J.E. Gottlieb s.n.  
*Dryopteris goldiana* (Hook. ex Goldie) A. Gray, 1945 W.E. Buker s.n.  
*Dryopteris intermedia* (Muhl. ex Willd.) A. Gray, 1997 B.L. Isaac and J.A. Isaac 9615  
*Dryopteris marginalis* (L.) A. Gray, 1998 B.L. Isaac and J.A. Isaac 11659  
*Dryopteris x boottii* (Tuckerman) Underwood (pro sp.), 1955 L.K. Henry s.n.  
*Dryopteris x neowherryi* W.H. Wagner, 1899 J.A. Shafer s.n.  
*Dryopteris x slossoniae* Wherry ex Sellinger, 1909 L.S. Hopkins s.n.  
*Dryopteris x triploidea* Wherry, 2001 B.L. Isaac and J. Isaac and C. Chuey and S. Grund 13592  
*Dryopteris x uliginosa* (A. Braun ex Dowell) Druce, 1946 O.E. Jennings s.n.  
*Gymnocarpium dryopteris* (L.) Newman, 1945 W.E. Buker s.n.  
*Matteuccia struthiopteris* (L.) Todaro, 1963 A.J. Cirucci s.n.  
*Onoclea sensibilis* L., 1998 K. McGowan and M. Scanlon 297  
*Polystichum acrostichoides* (Michx.) Schott, 1998 K. McGowan and M. Scanlon 215  
*Woodsia obtusa* (Spreng.) Torr. ssp. *obtusa*, 2001 J.A. Isaac 13540

## Ophioglossaceae

- Botrychium dissectum* Spreng., 1998 S.A. Thompson and B.L. Isaac and J.A. Isaac 15189

*Botrychium matricariifolium* (A. Braun ex Dowell) A. Braun, 1982 E.G. Allen s.n.

*Botrypus virginianus* (L.) Holub, 1964 W.D. Loub WP-880 [*Botrychium virginianum* (L.) Sw.]

*Sceptridium multifidum* (Gmel.) Nishida ex Tagawa, 1933 L. Lincoln s.n. [*Botrychium multifidum* (Gmel.) Trev.]

*Sceptridium oneidense* (Gilbert) Holub, 1937 O.E. Jennings s.n. [*Botrychium oneidense* (Gilbert) House]

#### Osmundaceae

*Osmunda cinnamomea* L., 1991 G.H. Pollack 47

*Osmunda claytoniana* L., 1955 L.K. Henry s.n.

*Osmunda regalis* L. var. *spectabilis* (Willd.) A. Gray, 1946 W.E. Buker and M. Henrici s.n.

#### Polypodiaceae

*Polypodium appalachianum* Haufler & Windham, 1940 R.W. Little s.n.

*Polypodium virginianum* L., 1945 W.E. Buker s.n.

#### Pteridaceae

*Adiantum aleuticum* (Rupr.) Paris, 1998 B.L. Isaac and J.A. Isaac 11667 G5?:SNR [*Adiantum pedatum* L.]

*Adiantum pedatum* L., 1963 A.J. Cirucci s.n.

#### Thelypteridaceae

*Phegopteris hexagonoptera* (Michx.) Fee, 1998 B.L. Isaac and J.A. Isaac 11668 [*Thelypteris hexagonoptera* (Michx.) Weatherby]

*Thelypteris noveboracensis* (L.) Nieuwl., 1998 B.L. Isaac and J.A. Isaac 11670

*Thelypteris palustris* Schott var. *pubescens* (Lawson) Fern., 1922 O.E. Jennings s.n.

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